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# Connecticut Agricultural Experiment Station

NEW HAVEN, CONN.

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BULLETIN 241

NOVEMBER, 1922

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## Fertilizer Report for 1922

By E. H. JENKINS, *Director*, and  
E. M. BAILEY, *Chemist in Charge of the  
Analytical Laboratory*.

The Bulletins of this Station are mailed free to citizens of Connecticut who apply for them, and to other applicants as far as the editions permit

# CONNECTICUT AGRICULTURAL EXPERIMENT STATION

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October, 1922.

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## **Report on Commercial Fertilizers, 1922**

By E. H. JENKINS, *Director*, and E. M. BAILEY,  
*Chemist in Charge of the Analytical Laboratory.*

We desire here to emphasize certain points regarding the law and the gratuitous analysis of fertilizers, which do not seem to be fully understood by those concerned. Complete understanding of these points will greatly increase the effectiveness of our work and its value, both to sellers and users of fertilizers.

*What is required of all who sell commercial fertilizers in this state?*

The seller is responsible for the proper labeling of each package, as provided in Section 1 of the law, for the registration at the Station of every brand sold by him and for the payment of the analysis fee, before offering for sale, and annually thereafter on January 1st.

The seller must also, on the 1st of January and July, report the tonnage of fertilizer sold within the preceding six months and pay to the director of the Station a tonnage fee of 6 cents per ton.

On request, copies of the law and blanks for registration and for tonnage reports will be supplied by the Station.

If, however, proper labeling, registration and payments have been provided for by the manufacturer of the brands or by another responsible person, all sellers of such brands are released from the above mentioned requirements. The retailer, therefore, should assure himself that the requirements of the law have been met by the manufacturers of the brands which he handles, or himself be prepared to meet all these requirements.

*What is required of persons drawing samples for analysis?*

The Station every year analyzes a large number of samples sent by individuals, representing fertilizers bought by them for their own use. The object of the sender is to learn whether the fertilizer contains all that is guaranteed, and, if it does not, to provide evidence for a claim against the seller. It is absolutely necessary that the sample should be taken essentially in the way prescribed by the law and in the presence of a witness. If this is not done, it will be difficult to prove the fairness of the sample, the Station will have been put to useless expense and the analysis of the sample will not be of any value to the sender. Therefore, the Station will supply to any applicant a form which describes the method of sampling and on which the sample should be fully described. This description should be sent to the Station with (not in) the sample. It thus makes the analysis of public interest

and value, which is the only justification for doing the work at state expense, and it is the only way by which it is possible for the sender to learn the true composition of the stock sampled and to prove its composition if a claim for rebate is made.

The Station desires to know the retail cash ton price of each fertilizer, but, if requested, will not publish the information.

In 1922, 60 individuals and firms registered for sale in this state 482 brands of commercial fertilizers, classified as follows:

Mixed fertilizers .....	303
Cotton seed meal and castor pomace .....	33
Other chemicals and unmixed materials .....	146
Total .....	482

The number of firms is less by 16 and the number of brands less by 62 than last year.

The brands which have been registered at this Station for the year 1922 are here listed as required by Statute.

To the brands registered for 1921 in our last report should be added:

**East St. Louis Cotton Oil Co., National Stockyards, Ill.**  
St. Clair Brand Cotton Seed Meal

**American Agricultural Chemical Co., 2 Rector St., New York, N. Y.**

Bowker's Lawn and Garden Dressing

Castor Pomace

Complete Potato Mixture

Cotton Seed Meal

Double A Tobacco Fertilizer

Dry Ground Fish

Fine Ground Bone

Fish and Potash

5-4-3 Tobacco Fertilizer

Grass and Lawn Top Dressing

Grass and Oats Fertilizer

Ground Tankage

High-Grade Acid Phosphate

Monarch Potato Manure

Muriate of Potash

Nitrate of Soda

Precipitated Bone

Pulverized Sheep Manure

7% Potash Fertilizer

16% Acid Phosphate

Special Ground Bone

Sulphate of Ammonia

Sulphate of Potash

Tobacco Special

Universal Phosphate

Bradley's Complete Manure for Potatoes and Vegetables

Bradley's Complete Manure for Top Dressing Grass and Grain

Bradley's Complete Tobacco Manure  
Bradley's Corn Phosphate  
Bradley's New Method Fertilizer  
Bradley's Northland Potato Grower  
Bradley's Potato Fertilizer  
Bradley's Potato Manure  
Bradley's Valley Tobacco Fertilizer  
Bradley's XL Superphosphate of Lime  
Great Eastern General  
Great Eastern Northern Corn Special  
Great Eastern Potato Manure  
Listers Celebrated Tobacco Fertilizer  
Listers Complete Tobacco Fertilizer without Potash  
Listers Complete Tobacco Manure  
Listers Corn and Potato Fertilizer  
Listers Eastern Pride Fertilizer  
Listers 4-8-4 Fertilizer  
Listers Standard Pure Superphosphate of Lime  
Listers Success Fertilizer  
National Complete Tobacco Fertilizer  
National Eureka Potato Fertilizer  
National 5-4 Tobacco Manure  
National Market Garden Fertilizer  
National Potato Phosphate  
National Special Tobacco  
National Universal Phosphate  
National XXX Fish and Potash  
Packers' Union Animal Corn Fertilizer  
Packers' Union Potato Manure  
Packers' Universal Fertilizer  
Quinnipiac Climax Phosphate  
Quinnipiac Corn Manure  
Quinnipiac Market Garden Manure  
Quinnipiac Phosphate  
Quinnipiac Potato Manure  
Quinnipiac Potato Phosphate  
Quinnipiac Wrapper Leaf Brand Tobacco Manure  
Wheeler's Corn Fertilizer  
Wheeler's Cuban Tobacco Grower  
Wheeler's Potato Manure  
Williams & Clark's Americus Ammoniated Bone Superphosphate  
Williams & Clark's Americus Corn Phosphate  
Williams & Clark's Americus High-Grade Special for Potatoes and Vegetables  
Williams & Clark's Americus Potato Manure  
Williams & Clark's Potato Phosphate  
Williams & Clark's Prolific Fertilizer  
Williams & Clark's Seed Leaf Tobacco Manure

American Cotton Oil Co., 65 Broadway, New York, N. Y.

"Aco" Brand Cotton Seed Meal  
Longhorn Brand Cotton Seed Meal  
Surety Brand Cotton Seed Meal

Apothecaries Hall Co., Waterbury, Conn.

Acid Phosphate  
Bone

Bone Meal  
 Bone and Meat Tankage  
 Castor Pomace  
 Dry Ground Fish  
 Liberty Corn, Fruit and All Crops 2-8-2  
 Liberty Fish, Bone and Potash.  
 Liberty 4-8-6  
 Liberty High-Grade Tobacco Manure  
 Liberty Market Gardeners' Special  
 Liberty Tobacco Special (Cotton Seed Meal Base)  
 Liberty Top Dresser for Grass and Grain  
 Muriate Potash  
 Nitrate Soda  
 Precipitated Bone  
 Sheep Manure  
 Sulphate of Ammonia  
 Sulphate Potash  
 Tankage

**Armour Fertilizer Works, 305 Broadway, New York, N. Y.**

Armour's Big Crop Acid Phosphate 16%  
 Armour's Big Crop Fertilizer 5-8-5  
 Armour's Big Crop 4-8-7  
 Armour's Big Crop 4-8-6  
 Armour's Big Crop 4-6-10  
 Armour's Big Crop 4-10-0  
 Armour's Big Crop 3-8-4  
 Armour's Big Crop Potato and Onion 4-8-4  
 Armour's Big Crop Tobacco Special 5-4-5  
 Armour's Corn Grower 2-8-2  
 Armour's 5-4-3 for Tobacco 5-4-3  
 Armour's General Crop 1-7-1  
 Armour's Nitrate of Soda  
 Bone Meal 3-50  
 Castor Pomace  
 Ground Fish  
 Ground Tankage 9-15  
 Muriate of Potash  
 Precipitated Bone  
 Sheep Manure  
 Sulphate of Potash  
 Tankage 6-30

**Ashcraft-Wilkinson Company, Trust Co. of Georgia Bldg., Atlanta,  
 Ga.**

Helmet Brand Prime Cotton Seed Meal  
 Monarch Brand Choice Prime Cotton Seed Meal  
 Paramount Brand Good Cotton Seed Meal

**Atlantic Packing Co., New Haven, Conn.**

Atlantic 5-8-7  
 Atlantic 4-8-6  
 Atlantic Grain Fertilizer  
 Atlantic Potato Phosphate  
 Atlantic Special Vegetable  
 Atlantic 3-8-3  
 Atlantic Tobacco Grower  
 Atlantic Tobacco Manure 5-8-6

**Baker Castor Oil Co., 120 Broadway, New York, N. Y.**  
Castor Pomace

**Barrett Co., 40 Rector St., New York, N. Y.**  
Arcadian Sulphate of Ammonia

**Berkshire Fertilizer Co., Bridgeport, Conn.**

- Acid Phosphate
- Berkshire Ammoniated Bone Phosphate
- Berkshire Complete Fertilizer
- Berkshire Complete Tobacco
- Berkshire Grass Special
- Berkshire Market Garden
- Berkshire Potato and Vegetable Phosphate
- Berkshire Tobacco Special
- Berkshire Tobacco Starter
- Castor Pomace
- Double Manure Salts
- Dry Ground Fish
- Fine Ground Bone
- Ground Sheep Manure
- Muriate of Potash
- Nitrate of Soda
- Precipitated Bone Phosphate
- Sulphate of Potash

**Blish, F. T., Hardware Co., South Manchester, Conn.**

- Complete Tobacco Fertilizer
- Corn and Potato Phosphate
- Market Garden Fertilizer
- Top Dressing for Grass

**Boardman, F. E., Middletown, Conn.**

- Boardman's Fertilizer for Potatoes and General Crops
- Boardman's Tobacco Fertilizer

**Bowker Fertilizer Co., 60 Trinity Place, New York, N. Y.**

- Bowker's 16% Acid Phosphate
- Bowker's All Round Fertilizer
- Bowker's Connecticut Valley Tobacco Fertilizer
- Bowker's Corn, Grain and Grass Phosphate
- Bowker's Early Potato Manure
- Bowker's Fisherman's Brand Fish and Potash
- Bowker's Hill and Drill Phosphate
- Bowker's Lawn and Garden Dressing
- Bowker's Potato and Vegetable Phosphate
- Bowker's Square Brand Farm and Garden Phosphate
- Bowker's Sure Crop Phosphate
- Bowker's Tobacco Grower
- Maryland 16% Acid Phosphate
- Maryland Corn Phosphate
- Maryland High Potash Fertilizer
- Maryland Standard Fertilizer
- Maryland Truck Garden Fertilizer
- Stockbridge Early Crop Manure
- Stockbridge Market Garden Manure

Stockbridge Potato and Vegetable Manure  
Stockbridge Tobacco Manure  
Stockbridge Top Dressing and Forcing Manure

**Bridge's Sons, Amos D., Inc., Hazardville, Conn.**  
Corn, Onion and Potato and General Purpose  
Special Tobacco Fertilizer

**Buckeye Cotton Oil Co., Cincinnati, Ohio.**  
"Buckeye" Good Cotton Seed Meal, Good Quality

**Cameron-Daniel Co., Atlanta, Ga.**  
Good Cotton Seed Meal

**Chittenden, E. D. Co., Bridgeport, Conn.**  
Chittenden's Acid Phosphate 16%  
Chittenden's Castor Pomace  
Chittenden's Complete Grain with 3% Potash  
Chittenden's Complete Tobacco and Onion Grower with 6%  
Potash from Sulfate  
Chittenden's Complete Tobacco and Onion Grower with 4%  
Potash (Sulfate)  
Chittenden's Dry Ground Fish  
Chittenden's Potato Special with 4% Potash  
Chittenden's Potato Special with 6% Potash  
Chittenden's Tobacco Special with 5% Potash from Sulfate

**Clark, Everett B. Seed Co., Milford, Conn.**

Clark's Special Mixture Corn Starter with 2% Potash  
Clark's Special Mixture for General Use with 4% Potash  
Clark's Special Mixture for Potatoes with 6% Potash  
Clark's Special Mixture Tip Top Brand  
Nitrate of Soda  
16% Acid Phosphate

**Coe-Mortimer Co., 2 Rector St., New York, N. Y.**

E. Frank Coe's Celebrated Special Potato Fertilizer  
E. Frank Coe's Columbian Corn and Potato Fertilizer  
E. Frank Coe's Connecticut Wrapper Grower  
E. Frank Coe's Gold Brand Excelsior Guano  
E. Frank Coe's New Englander Special  
E. Frank Coe's Red Brand Excelsior Guano  
E. Frank Coe's Special Grass Top Dressing  
E. Frank Coe's 16% Superphosphate  
E. Frank Coe's Standard Potato Fertilizer  
E. Frank Coe's Tobacco Leaf Fertilizer

**Connecticut Fat Rendering & Fertilizing Corp., West Haven, Conn.**  
Tankage

**Consolidated Rendering Co., 40 North Market St., Boston, Mass.**  
Acid Phosphate  
Castor Pomace  
Ground Bone (3-24)  
Ground Bone (2.5-26)

Ground Fish  
 Muriate Potash  
 Nitrate Soda  
 Sulphate Ammonia  
 Sulphate Potash  
 Tankage 9-20  
 Tankage 6-30

**Dold, Jacob, Packing Co., Buffalo, N. Y.**

Dold-Quality Bone Meal

**Eastern States Farmers' Exchange, 292 Worthington St., Springfield, Mass.**

16% Acid Phosphate  
 Bone 3-50  
 Castor Pomace  
 Dry Ground Fish 11%  
 Ground Bone 10-10  
 Ground Tankage 4½-45  
 Muriate of Potash  
 Nitrate of Soda  
 Sulphate of Ammonia  
 Sulphate of Potash  
 Tankage 7-15  
 5-4-0  
 5-4-5  
 5-8-5  
 4-8-4  
 4-8-7  
 4-10-0  
 3-8-4  
 2-8-2

**East St. Louis Cotton Oil Co., National Stock Yards, Illinois.**

St. Clair Brand Cotton Seed Meal

**Essex Fertilizer Co., 39 North Market St., Boston, Mass.**

Essex Fish Fertilizer 3-8-3 for All Crops  
 Essex 5-8-7 for Potatoes and Vegetables  
 Essex 4-8-4 for Potatoes, Roots and Vegetables  
 Essex Market Garden 3-8-4 for Vegetables and Grass  
 Essex 1-10-1 for Grain and Grass  
 Essex Tobacco 5-5-5  
 Essex Tobacco 5-4-3  
 Essex 2-8-2 for Farm and Garden

**Frisbie, L. T. Co., New Haven, Conn.**

Castor Pomace  
 Dry Ground Fish  
 Fine Bone Meal  
 Ground Bone  
 Frisbie's Corn and Grain Fertilizer  
 Frisbie's 5-8-7  
 Frisbie's Market Garden  
 Frisbie's Special  
 Frisbie's Special Vegetable and Potato Grower

Frisbie's Superphosphate  
Frisbie's Tobacco Grower  
Frisbie's Tobacco Manure 5-8-6  
Frisbie's Top Dresser 7-5-4

**Green-Miller Co., 724 Atlanta Trust Co. Bldg., Atlanta, Ga.**  
Good Cotton Seed Meal

**Humphreys-Godwin Co., Memphis, Tenn.**

Bull Brand Cotton Seed Meal  
Danish Brand Cotton Seed Meal  
Dixie Brand Cotton Seed Meal

**International Agricultural Corporation, Buffalo Fertilizer Works,  
126 State St., Boston, Mass.**

Bone Meal  
Buffalo Complete Tobacco  
Buffalo Crop Grower  
Buffalo Economy  
Buffalo Farmers' Choice  
Buffalo High-Grade Manure  
Buffalo New England Special  
Buffalo Phosphate and Potash  
Buffalo Sixteen Per Cent  
Buffalo Tobacco Grower  
Buffalo Tobacco Producer  
Buffalo Top Dresser and Starter  
Buffalo Vegetable and Potato  
Dry Ground Fish

**Jones, Robin, Phosphate Co., Nashville, Tenn.**  
Ground Rock Phosphate

**Joynt, John, Lucknow, Ontario, Canada**  
The Joynt Brand Unleached Hardwood Ashes

**Levering Fertilizer Co., Inc., 708 Keyser Bldg., Baltimore, Md.**

Bone Meal  
Levering General Fertilizer  
Levering Market Garden  
Levering Old Reliable Phosphate  
Levering Potato Phosphate  
Levering Potato Special  
Levering Tobacco Special  
Levering 16% Acid Phosphate  
Muriate of Potash  
Nitrate of Soda

**Lovitt, L. B. & Co., Memphis, Tenn.**

"Lovitt Brand" Cotton Seed Meal  
"Neal's Choice" Cotton Seed Meal  
"Thirty Six Brand" Cotton Seed Meal

**Lowell Fertilizer Co., 40 North Market St., Boston, Mass.**

Lowell Animal Brand 3-8-4 for All Crops  
 Lowell Bone Fertilizer 2-8-2 for Corn, Grain, Grass and Vegetables.  
 Lowell Empress Brand 1-10-1 for Grain and Vegetables  
 Lowell 5-8-4 for Vegetables and Grass  
 Lowell 5-8-7 for Potatoes and Vegetables  
 Lowell 4-8-4 for Potatoes, Corn and Vegetables  
 Lowell 4-6-10 for Potatoes and Vegetables  
 Lowell 3-6-10 for Corn, Potatoes and Vegetables  
 Lowell Tobacco 5-5-5  
 Lowell Tobacco 5-8-6  
 Lowell Tobacco 5-4-3  
 Lowell 2-8-3 for Vegetables and Grain  
 Lowell 2-8-6 for Grain, Grass and Potatoes

**Lyle & Lyle, Huntsville, Ala.**

Alabama Brand Cotton Seed Meal  
 Economy Brand Cotton Seed Meal  
 Lyle's Best Brand Cotton Seed Meal

**Mapes Formula & Peruvian Guano Co., 143 Liberty St., New York, N. Y.**

Mapes Connecticut Valley Special  
 Mapes Corn Manure  
 Mapes Cotton Seed Tobacco Manure  
 Mapes General Tobacco Manure  
 Mapes General Truck Manure  
 Mapes General Use Manure  
 Mapes Grain Brand  
 Mapes Onion Manure  
 Mapes Potato Manure  
 Mapes Pure Ground Bone  
 Mapes Tobacco Ash Constituents  
 Mapes Tobacco Manure Wrapper Brand  
 Mapes Tobacco Starter Improved  
 Mapes Top Dresser

**Mitchell, Walter L., 699 Forest Road, New Haven, Conn.**

Mitchell's 5-8-7  
 Mitchell's Ground Raw Rock Phosphate Flour  
 Mitchell's 2-8-2  
 16% Acid Phosphate

**Natural Guano Co., Aurora, Ill.**

"Sheep's Head" Pulverized Sheep Manure

**Nature's Plant Food Co. of Maine, 43 Commercial St., Boston, Mass.**

Nature's Plant Food

**New England Fertilizer Co., 40 A North Market St., Boston, Mass.**

New England Corn Phosphate 2-8-2 for Grain and Vegetables  
 New England 5-8-7 for Potatoes and Market Gardens  
 New England 4-8-6 for Potatoes and Vegetables  
 New England Superphosphate 3-8-4 for All Crops  
 New England Tobacco 5-5-5

New England Tobacco 5-4-3  
New England Tobacco Manure 5-8-6  
New England 2-8-3 for Vegetables and Grain

**Nitrate Agencies Co., 104 Pearl St., New York, N. Y.**

Naco Brand High-Grade Acid Phosphate  
Naco Brand Muriate of Potash  
Naco Brand Nitrate of Soda  
Naco Brand Sulphate of Potash  
Naco Brand Tankage

**Norwegian Nitrogen Products Co., Inc., 17 State St., New York, N. Y.**  
Norwegian Nitrate of Lime

**Nothern, W. C., Little Rock, Arkansas.**

Standard Brand Cottonseed Feed Meal

**Olds & Whipple, Inc., 164 State St., Hartford, Conn.**

Acid Phosphate  
Double Manure Salts  
High-Grade Muriate of Potash  
High-Grade Sulphate of Potash  
Nitrate of Soda  
Precipitated Bone Phosphate  
Steamed Bone  
Sulphate of Ammonia  
O & W Bone and Potash Compound  
O & W Complete Corn, Onion and Potato Fertilizer  
O & W Complete Tobacco Fertilizer  
O & W Dry Ground Fish  
O & W Grass Fertilizer  
O & W High Grade Potato Fertilizer  
O & W High-Grade Starter and Potash Compound  
O & W High-Grade Tobacco Starter  
O & W Special Corn, Onion and Potato Fertilizer  
O & W Top Dressing for Grass

**Parmenter & Polsey Fertilizer Co., 41 North Market St., Boston,  
Mass.**

Parmenter & Polsey 5-8-4 for Potatoes, Corn and Vegetables.  
Parmenter & Polsey 5-8-7 for Potatoes and Market Gardens  
Parmenter & Polsey 5-5-5  
Parmenter & Polsey 5-4-3  
Parmenter & Polsey 4-8-4 for Potatoes, Corn and Vegetables  
Parmenter & Polsey Plymouth Rock Brand 3-8-4 for All Crops  
Parmenter & Polsey 2-8-2 for Farm and Garden

**Platt, Frank S., Co., 450 State St., New Haven, Conn.**  
Platco Special 4-8-6

**Potash-Marl, Inc., 15 East 40th St., New York, N. Y.**  
Potash-Marl

**Poultry Feed Co., 431 South Dearborn St., Chicago, Ill.**  
Premier Brand Pulverized Poultry Manure

**Proto-Feed & Guano Co., 4121 So. LaSalle St., Chicago, Ill.**

Master Brand Pulverized Sheep Manure

**Pulverized Manure Co., 828 Exchange Ave., Union Stock Yards, Chicago, Ill.**

Wizard Brand Manure  
Wizard Brand Sheep Manure

**Rogers & Hubbard Co., The, Portland, Conn.**

Hubbard's "Bone Base" Fertilizer for Oats and Top Dressing  
Hubbard's "Bone Base" Fertilizer for Seeding Down  
Hubbard's "Bone Base" Soluble Corn and General Crops Manure  
Hubbard's "Bone Base" Soluble Potato Manure  
Hubbard's Pure Raw Knuckle Bone Flour  
Hubbard's Strictly Pure Fine Bone  
Rogers & Hubbard's Climax Tobacco Brand  
Rogers & Hubbard's Complete Phosphate  
Rogers & Hubbard's 4-8-4 Phosphate  
Rogers & Hubbard's Potato Phosphate  
Rogers & Hubbard's Soluble Tobacco Manure  
Rogers & Hubbard's Tobacco Grower, Vegetable Formula  
Acid Phosphate  
Castor Pomace  
Cottonseed Meal  
Dry Ground Fish  
Nitrate of Soda  
Sulphate of Ammonia  
Sulphate of Potash

**Royster, F. S., Guano Co., 1604 Munsey Bldg., Baltimore, Md.**

Nitrate of Soda  
Royster's Arrow Head Tobacco Formula  
Royster's Bully Guano  
Royster's Fine Ground Bone Meal  
Royster's Fish and Potash  
Royster's Fish, Flesh and Fowl  
Royster's Landmark Brand  
Royster's Prime Fish Brand  
Royster's Pure Raw Bone Meal  
Royster's Quality Trucker  
Royster's 16% Acid Phosphate  
Royster's Trucker's Delight  
Royster's Valley Tobacco Formula

**Sanderson Fertilizer & Chemical Co., New Haven, Conn.**

Sanderson's Acid Phosphate  
Sanderson's Atlantic Coast Bone, Fish and Potash  
Sanderson's Castor Pomace  
Sanderson's Complete Tobacco Grower  
Sanderson's Corn Superphosphate  
Sanderson's Dry Ground Fish  
Sanderson's Fine Ground Bone  
Sanderson's Ground Tankage  
Sanderson's Formula A  
Sanderson's Formula B

Sanderson's Ground Tankage  
Sanderson's High-Grade Ammoniated Phosphate  
Sanderson's Kelsey's Bone, Fish and Potash  
Sanderson's Nitrate of Soda  
Sanderson's Phosphate without Potash  
Sanderson's Potato Manure  
Sanderson's South American Sheep and Goat Manure  
Sanderson's Sulphate of Ammonia  
Sanderson's Sulphate of Potash  
Sanderson's Tobacco Grower  
Sanderson's Top Dressing for Grass and Grain

**Shoemaker, M. L., & Co., Venango St. and Delaware Ave., Philadelphia, Pa.**

Swift-Sure Bone Meal  
Swift-Sure Super Phosphate Crop Grower  
Swift-Sure Super Phosphate Potato No. I  
Swift-Sure Super Phosphate Potato Special  
Swift-Sure Super Phosphate Tobacco and General Use  
Swift-Sure Super Phosphate Tobacco Starter

**Springfield Rendering Co., Springfield, Mass.**

Springfield Animal Brand, 3-8-4  
Springfield 4-8-6  
Springfield Market Garden Grower and Top Dresser 5-8-7  
Springfield Special Potato, Onion and Vegetable, 4-8-4  
Springfield Tobacco Special 5-5-5

**Virginia-Carolina Chemical Co. (of Delaware), Equitable Bldg., 120 Broadway, New York, N. Y.**

Bone Meal  
Nitrate of Soda  
Sheep Manure  
V-C Champion Brand  
V-C Cherokee Brand  
V-C Double Owl Brand  
V-C Eureka Brand  
V-C Fish, Phosphate and Potash Brand  
V-C Indian Chief Brand  
V-C Owl Brand  
V-C Perfection Brand  
V-C Plow Brand  
V-C Universal Brand

**What Cheer Chemical Co., Inc., 188 Grotto Ave., Pawtucket, R. I.**

Ground Bone  
What Cheer Superior Brand

**Wilcox Fertilizer Co., Mystic, Conn.**

Acid Phosphate  
Eldredge Fish and Potash  
Ground Blood and Meat Tankage  
Muriate of Potash  
Nitrate of Soda  
Pure Ground Bone  
Sulphate of Potash

Wilcox Complete Superphosphate  
 Wilcox Corn Special  
 Wilcox Dry Ground Fish  
 Wilcox 5-8-7 Fertilizer  
 Wilcox Fish and Potash  
 Wilcox 4-8-4 Fertilizer  
 Wilcox Grain Fertilizer  
 Wilcox Grass and Truck Fertilizer  
 Wilcox Potato Fertilizer  
 Wilcox Potato and Vegetable Phosphate  
 Wilcox Tobacco Special

**Witherbee, Sherman & Co., 2 Rector St., New York, N. Y.**

Barium-Phosphate  
 Witherbee's Truck Grower

**Woodruff, S. D., & Sons, Orange, Conn.**

Woodruff's Home Mixed Fertilizer

**Worcester Rendering Co., Auburn, Mass.**

Prosperity Brand Complete Dressing  
 Prosperity Brand Corn and Grain  
 Prosperity Brand Market Garden  
 Prosperity Brand Potato and Vegetable  
 Royal Worcester Ground Steam Bone  
 Royal Worcester Ground Tankage

During the year, V. L. Churchill, the sampling agent of the Station, has visited 102 towns and villages in the state and has drawn 558 samples for analysis, including all the registered brands which were found on sale.

## CLASSIFICATION OF FERTILIZERS ANALYZED.

		Number of Samples.	See page.
1. Containing nitrogen as the chief active ingredient:			
Nitrate of soda .....	24	68	
Sulphate of ammonia .....	7	70	
Cotton seed meal .....	168	71	
Castor pomace .....	61	78	
2. Containing phosphoric acid as the chief active ingredient:			
Raw rock phosphate .....	2	82	
Precipitated bone phosphate .....	13	82	
Dissolved rock phosphate or acid phosphate.	33	84	
3. Containing potash as the chief active ingredient:			
Carbonate of potash .....	10	87	
Muriate of potash .....	16	87	
High-grade sulphate of potash .....	17	87	
Double sulphate of potash and magnesia...	5	87	
"Manure salts" .....	8	88	

4. *Raw materials containing nitrogen and phosphoric acid:*

Fish manures .....	26	93
Slaughter-house tankage .....	13	98
Bone manures .....	33	99
Mixed bone and tankage .....	2	102
Garbage tankage .....	2	102

5. *Mixed fertilizers:*

Nitrogenous superphosphates without potash	12	105
Nitrogenous superphosphates containing potash .....	282	108
Home mixtures, etc. ....	53	134

6. *Miscellaneous fertilizers, amendments and waste products:*

Wood ashes .....	9	140
Sheep manure, etc. ....	12	140
Tobacco residues .....	2	142
Peat or muck .....	4	142
Miscellaneous wastes .....	4	142
Soils .....	18	143

837

## I. RAW MATERIALS CHIEFLY VALUABLE FOR NITROGEN.

## NITRATE OF SODA.

Twenty-four samples of this material have been examined and are here reported.

Only one, No. 18802, failed to meet its guaranty.

No. 18828, containing only 13.56 per cent of nitrogen, was sent as a factory product which "had been once melted for factory use."

No. 18880 is not Chilian nitrate, but a product of the fixation of atmospheric nitrogen.

**Cost:** The prices reported range from 18.1 to 24 cents per pound of nitrogen, and the average of all is 19.7 cents per pound.

**19217.** Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane, Hartford.

**18933.** Sold by The Rogers & Hubbard Co., Portland. Stock of Edward O. Douglass, Suffield.

**18827.** Sold by the Apothecaries Hall Co., Waterbury. Stock of Connecticut School for Boys.

**19142.** Sold by Berkshire Fertilizer Co., Bridgeport. Stock of John Dorsey, Farmers' Exchange, Putnam.

- 19061.** Sold by Olds & Whipple, Inc.. Hartford. Stock of Fassler & Silberman, Hartford.
- 18844.** Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane, Hartford.
- 19228.** Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane, Hartford.
- 18843.** Sold by Olds & Whipple, Inc., Hartford. Sent by Hatheway & Steane.
- 18790.** Sold by Everett B. Clark Seed Co., Milford. Sampled at the factory.
- 18797.** Sold by Sanderson Fertilizer & Chemical Co., New Haven. Sampled at the factory.
- 18869.** Sold by Olds & Whipple, Inc., Hartford. Sampled at factory.
- 19041.** Sold by Armour Fertilizer Works, New York. Stock of J. D. Kelsey & Son, Madison.
- 19285.** From Consolidated Rendering Co., Boston, Mass. Sold by L. T. Frisbie Co., New Haven. Sent by J. E. Shepard, South Windsor.
- 18876.** Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at the factory.
- 19064.** Sold by Wilcox Fertilizer Co., Mystic. Stock of Spencer Bros., Inc., Suffield.
- 19374.** Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of J. D. Kelsey & Son, Madison.
- 19346.** Sold by Virginia-Carolina Chemical Co., New York. Stock of Silliman Hardware Co., New Canaan.
- 19439.** Sold by F. S. Royster Guano Co., Baltimore, Md. Stock of W. S. Brown, Trumbull.
- 18802.** Sold by Consolidated Rendering Co., Boston, Mass. Stock of L. T. Frisbie Co., New Haven.
- 18828.** Sent by Albert C. Sherwood, Bristol.
- 18865.** Sold by American Agricultural Chemical Co., New York. Stock of H. S. Davis, New Haven.
- 18880.** Made by Norwegian Nitrogen Products Co. Stock of Berkshire Fertilizer Co., Bridgeport.
- 18914.** Sent by Huntington Bros., Windsor.
- 19026.** Sold by Consolidated Rendering Co., Boston, Mass. Sent by A. E. Plant Sons Co., Branford.

TABLE I. ANALYSES OF NITRATE OF SODA.

Station No.	Per cent of Nitrogen, Guaranteed.	Found.	Cost per ton.	Nitrogen costs cents per pound
19217	15.00	16.00	\$58.00	18.1
18933	15.63	15.64	57.00	18.2
18827	15.00	15.54	57.00	18.3
19142	14.80	15.72	58.00	18.4
19061	15.00	15.48	60.00	18.4
18844	15.00	15.64	58.00	18.5
19228	15.00	15.62	58.00	18.6
18843	15.00	15.60	58.00	18.6
18790	....	15.60	59.00	18.9
18797	15.00	15.60	60.00	19.2
18869	15.00	15.56	60.00	19.3
19041	14.81	15.68	60.50	19.3
19285	15.50	15.74	62.00	19.7
18876	14.80	15.66	65.00	20.7
19064	15.00	15.56	65.00	20.7
19374	14.80	14.72	63.90	21.7
19346	14.80	15.66	75.00	23.9
19439	15.00	15.60	75.00	24.0
18802	15.50	15.28	....	....
18828	....	13.56	....	....
18865	15.00	15.54	....	....
18880	14.80	16.00	....	....
18914	....	15.62	....	....
19026	15.00	15.56	....	....

## SULPHATE OF AMMONIA.

The seven samples analyzed were the following:

**18866.** Sold by Apothecaries Hall Co., Waterbury. Stock of R. W. Hine, Cheshire.

**19144.** Sold by The Barrett Co., New York City. Stock of John Dorsey, Farmers' Exchange, Putnam.

**19467.** Sold by Eastern States Farmers' Exchange, Springfield, Mass. Stock of C. K. Andrews, West Woods Farmers' Association, Mt. Carmel.

**18874.** Sold by Olds & Whipple, Inc., Hartford. Sampled at the factory.

**18875.** Sold by The Barrett Co., New York City. Stock of Berkshire Fertilizer Co., Bridgeport.

**18800.** Sold by Consolidated Rendering Co., Boston, Mass. Stock of L. T. Frisbie Co., New Haven.

**19540.** Sold by Sanderson Fertilizer & Chemical Co., New Haven. Stock of Preston Co-operative Exchange, Norwich.

All of these samples meet their guaranties, and their composition is fairly uniform.

**Cost:** The cost of nitrogen in sulphate of ammonia has ranged from 14.3 to 16.8 cents per pound, an average of 15.6 cents. During the present season, this has been the cheapest source of available nitrogen in our market.

TABLE II. ANALYSES OF SULPHATE OF AMMONIA.

Station No.	Per cent of Nitrogen, Guaranteed.	Found.	Cost per ton.	Nitrogen costs cents per pound
18866	20.56	20.92	\$60.00	14.3
19144	20.75	20.80	60.84	14.6
19467	20.55	20.54	63.60	15.5
18874	20.58	20.92	69.00	16.5
18875	20.75	20.82	70.00	16.8
18800	20.50	20.64	....	....
19540	20.16	20.94	....	....

## COTTON SEED MEAL.

In Table III are given the analyses of 168 samples. Most of them represent car lots, used as fertilizers for tobacco.

## GUARANTIES.

Of the 168 samples, 24, or about 15 per cent, failed to meet their guaranties. In thirteen cases, the failure involved 0.20 per cent or more, as follows:

		Nitrogen deficiency.
19275	Ashcraft-Wilkinson Co. ....	0.37
18631	Humphreys-Godwin Co. ....	0.27
18656	Humphreys-Godwin Co. ....	0.84
18672	Humphreys-Godwin Co. ....	0.21
18686	Humphreys-Godwin Co. ....	0.20
18687	Humphreys-Godwin Co. ....	0.26
18688	Humphreys-Godwin Co. ....	0.99
18841	Humphreys-Godwin Co. ....	0.26
18929	Humphreys-Godwin Co. ....	0.27
19218	Humphreys-Godwin Co. ....	0.42
19420	Humphreys-Godwin Co. ....	0.29
19509	Humphreys-Godwin Co. ....	0.20
19543	L. B. Lovitt & Co. ....	0.36

## COMPOSITION AND COST.

Only three grades of cotton seed meal have been sold to any considerable extent as fertilizers. Their guaranties are as follows:

5.76 per cent Nitrogen equivalent to 7.0% ammonia and 36% protein.  
6.56 per cent Nitrogen equivalent to 8.0% ammonia and 41% protein.  
6.88 per cent Nitrogen equivalent to 8.3% ammonia and 43% protein.

Of the first or lowest grade, 19 samples (3 below guaranty) had an average content of 5.83 per cent nitrogen, the cost of which averaged 44.6 cents per pound, chiefly in car lots.

Of the medium grade, 107 samples (18 below guaranty) guaranteed 6.56 per cent of nitrogen, had an average of 6.66 per cent nitrogen, the cost of which averaged 37.3 cents per pound, chiefly in car lots.

Of the highest grade meal, 30 samples (4 below guaranty) guaranteed 6.88 per cent nitrogen, averaged 6.95 per cent of nitrogen, the cost of which averaged 37.3 cents per pound.

During this season the medium and highest grades have been the better purchase, their nitrogen costing 7 cents per pound less than the lower grade.

TABLE III. ANALYSES OF COTTON SEED MEAL.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per Cent Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	American Cotton Oil Co., Atlanta, Ga.				
17840	Aco. ....	The Rogers & Hubbard Co., Portland .....	6.55	6.59	\$42.00
18981	Aco. A.C.L. 46521 .....	Louis Wetstone, Hartford.....	6.64	6.59	48.75
18982	Aco. A.C.L. 43885 .....	Louis Wetstone, Hartford.....	6.62	6.59	48.75
18983	Aco. 5389 .....	Louis Wetstone, Hartford.....	6.58	6.59	48.75
18984	Aco. 46913 .....	Louis Wetstone, Hartford.....	6.78	6.59	48.75
19261	Aco. 38348 .....	American Sumatra Tobacco Co., Bloomfield .....	7.00	6.59	....
19262	Aco. 27812 .....	American Sumatra Tobacco Co., Bloomfield .....	6.63	6.59	....
19263	Aco. 10839 .....	American Sumatra Tobacco Co., Bloomfield .....	6.90	6.59	....
19264	Aco. 32574 .....	American Sumatra Tobacco Co., Bloomfield .....	6.69	6.59	....
19265	Aco. 26489 .....	American Sumatra Tobacco Co., Bloomfield .....	6.40	6.59	....
19266	Aco. 43855 .....	American Sumatra Tobacco Co., Bloomfield .....	6.46	6.59	....
19267	Aco. 27505 .....	American Sumatra Tobacco Co., Bloomfield .....	6.92	6.59	....
19268	Aco. 160207 .....	American Sumatra Tobacco Co., Bloomfield .....	6.71	6.59	....
19269	Aco. 39775 .....	American Sumatra Tobacco Co., Bloomfield .....	7.00	6.59	....
19277	Aco. 36810 .....	American Sumatra Tobacco Co., Bloomfield .....	6.64	6.59	....
19312	Aco. 29937 .....	American Sumatra Tobacco Co., Bloomfield .....	6.78	6.59	....
19313	Aco. 32332 .....	American Sumatra Tobacco Co., Bloomfield .....	6.67	6.59	....
19314	Aco. 36841 .....	American Sumatra Tobacco Co., Bloomfield .....	6.40	6.59	....
19315	Aco. 43067 .....	American Sumatra Tobacco Co., Bloomfield .....	6.96	6.59	....
19390	Aco. 45457 .....	American Sumatra Tobacco Co., Bloomfield .....	6.64	6.59	....
19391	Aco. 80170 .....	American Sumatra Tobacco Co., Bloomfield .....	6.73	6.59	....
19392	Aco. 58105 .....	American Sumatra Tobacco Co., Bloomfield .....	6.55	6.59	....
19419	Aco. N. C. & St. L. 15724.	American Sumatra Tobacco Co., Bloomfield .....	6.56	6.59	....
19103	Longhorn, A.C.L. 43042.	Spencer Bros., Inc., Suffield ..	7.16	6.88	55.50
19102	Longhorn, A.C.L. 33182..	Spencer Bros., Inc., Suffield ..	7.34	6.88	55.50
19079	Surety. So. 15423 .....	Spencer Bros., Inc., Suffield ..	5.97	5.76	51.50
19799	40901 .....	The Coles Co., Middletown ..	5.70	5.76	56.00
19395	24461 .....	American Sumatra Tobacco Co., Bloomfield .....	6.80	....	....

TABLE III. ANALYSES OF COTTON SEED MEAL—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per Cent Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Ashcraft-Wilkinson Co., Atlanta, Ga.				
19273	Helmet. 31211 .....	American Sumatra Tobacco Co., Bloomfield .....	6.59	6.59	.....
19274	Helmet. 33609 .....	American Sumatra Tobacco Co., Bloomfield .....	6.52	6.59	.....
19275	Helmet. 34849 .....	American Sumatra Tobacco Co., Bloomfield .....	6.22	6.59	.....
19276	Helmet. 35486 .....	American Sumatra Tobacco Co., Bloomfield .....	6.64	6.59	.....
19278	Helmet. 65506 .....	American Sumatra Tobacco Co., Bloomfield .....	6.63	6.59	.....
19279	Helmet. 131724 .....	American Sumatra Tobacco Co., Bloomfield .....	6.60	6.59	.....
19349	Monarch .....	Station Agent from E. Man- chester & Sons, Winsted ...	6.86	6.88	\$56.00
19387	Monarch. C.P. 120614 .....	Rockville Grain & Coal Co., Rockville .....	6.95	6.88	55.75
19388	Monarch. So. 402019 .....	Rockville Grain & Coal Co., Rockville .....	7.02	6.88	55.75
19389	Monarch. 103732 .....	Rockville Grain & Coal Co., Rockville .....	7.02	6.88	55.75
19393	Monarch. 101879 .....	American Sumatra Tobacco Co., Bloomfield .....	6.88	6.88	.....
18645	Paramount. So. 355566 ...	The Coles Co., Middletown ...	5.68	5.76	50.00
18973	Paramount. A.C.L. 46180.	Spencer Bros., Inc., Suffield ..	5.63	5.76	46.00
19192	Paramount. ....	Station Agent from F. C. Morse, Guilford .....	5.77	5.76	50.00
19319	Paramount. L.N. 48205...	Spencer Bros., Inc., Suffield ..	6.00	5.76	51.00
19443	Paramount. P.R.R. 537067	The Coles Co., Middletown ...	5.74	5.76	56.00
19023	Paramount. So. 411242 ...	Spencer Bros., Inc., Suffield ...	5.69	5.76	46.00
	Apothecaries Hall Co., Waterbury.				
18696	14373 .....	Hatheway & Steane, Hartford.	7.23	...	.....
18697	255158 .....	Hatheway & Steane, Hartford.	6.80	...	.....
	Cameron-Daniel Co., Atlanta, Ga.				
18644	137727 .....	The Coles Co., Middletown ...	5.81	5.76	50.00
18924	Good .....	Station Agent from Goodsell Bros., Bristol .....	6.22	5.76	49.00
18928	A.C.L. 41281 .....	The Coles Co., Middletown ...	5.78	5.76	54.00
	The Green-Miller Co., Atlanta, Ga.				
19048	A.C.L. 34027 .....	Geo. S. Phelps Co., Thompson- ville .....	5.58	5.76	49.50

TABLE III. ANALYSES OF COTTON SEED MEAL—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per Cent Nitrogen.		Cost per ton.
			Found.	Guaranteed	
	Humphreys-Godwin Co., Memphis, Tenn.				
18631	Bull, 10604 .....	L. B. Haas & Co., Hartford ...	6.60	6.87	\$48.75
18632	Bull, 25052 .....	L. B. Haas & Co., Hartford ...	6.90	6.87	47.50
18633	Bull, 28465 .....	L. B. Haas & Co., Hartford ...	6.98	6.87	47.50
18634	Bull, 29788 .....	L. B. Haas & Co., Hartford ...	7.11	6.87	47.50
18635	Bull, 36078 .....	L. B. Haas & Co., Hartford ...	7.00	6.87	47.50
18636	Bull, 110742 .....	L. B. Haas & Co., Hartford ...	6.68	6.87	47.50
18710	Bull, L. & N. 8461 .....	Huntington Bros., Windsor ...	6.99	6.87	47.50
18711	Bull, So. 122487 .....	Huntington Bros., Windsor ...	6.96	6.87	47.50
18712	Bull, So. 410023 .....	Huntington Bros., Windsor ...	6.96	6.87	47.50
18713	Bull, A.C.L. 36951 .....	Huntington Bros., Windsor ...	7.25	6.87	47.50
19057	Bull .....	Station Agent from Fassler & Silberman, Hartford .....	6.81	6.87	49.50
19062	Bull, C. Ga. 25060 .....	Geo. S. Phelps & Co., Thomp- sonville .....	7.11	6.87	52.50
18656	Bull, Sou. 153070 .....	The Coles Co., Middletown ...	6.03	6.87	48.00
18657	Danish, D.L.W. 44107 .....	The Coles Co., Middletown ...	5.89	5.75	50.00
18511	Dixie, 170939 .....	Griffin Tobacco Co., Bloomfield	6.65	6.56	.....
18512	Dixie, 47890 .....	Griffin Tobacco Co., Bloomfield	6.66	6.56	.....
18513	Dixie, 52141 .....	Griffin Tobacco Co., Bloomfield	6.63	6.56	.....
18514	Dixie, 170181 .....	Griffin Tobacco Co., Bloomfield	6.77	6.56	.....
18534	Dixie, 42592 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.86	6.56	.....
18535	Dixie, 46767 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.66	6.56	.....
18536	Dixie, 27802 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.71	6.56	.....
18537	Dixie, 216380 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.72	6.56	.....
18538	Dixie, 48861 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.78	6.56	.....
18539	Dixie, 37640 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.88	6.56	.....
18622	Dixie, 132913 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.49	6.56	.....
18623	Dixie, 4470 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.42	6.56	.....
18624	Dixie, 7556 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.54	6.56	.....
18625	Dixie, 7868 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.59	6.56	.....
18626	Dixie, 60024 .....	American Sumatra Tobacco 'Co., Bloomfield .....	7.02	6.56	.....
18627	Dixie, 251699 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.53	6.56	.....
18648	Dixie, 173931 .....	American Sumatra Tobacco 'Co., Bloomfield .....	6.68	6.56	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per Cent Nitrogen.		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn.				
18649	Dixie, 173901 .....	American Sumatra Tobacco Co., Bloomfield .....	6.71	6.56	.....
18650	Dixie, 43913 .....	American Sumatra Tobacco Co., Bloomfield .....	6.74	6.56	.....
18651	Dixie, 61344 .....	American Sumatra Tobacco Co., Bloomfield .....	6.82	6.56	.....
18652	Dixie, 35024 .....	American Sumatra Tobacco Co., Bloomfield .....	6.68	6.56	.....
18665	Dixie, 23255 .....	American Sumatra Tobacco Co., Bloomfield .....	6.71	6.56	.....
18670	Dixie, 103187 .....	American Sumatra Tobacco Co., Bloomfield .....	6.64	6.56	.....
18671	Dixie, 38128 .....	American Sumatra Tobacco Co., Bloomfield .....	6.49	6.56	.....
18672	Dixie 137499 .....	American Sumatra Tobacco Co., Bloomfield .....	6.35	6.56	.....
18673	Dixie, 126758 .....	American Sumatra Tobacco Co., Bloomfield .....	6.58	6.56	.....
18674	Dixie, 40394 .....	American Sumatra Tobacco Co., Bloomfield .....	6.80	6.56	.....
18676	Dixie, S.A.L. 24428 .....	Steane, Hartman & Co., Hartford .....	6.59	6.56	.....
18677	Dixie, C.C.C. & St. L. 46095 .....	Steane, Hartman & Co., Hartford .....	6.87	6.56	.....
18678	Dixie, N. C. & St. L. 14245	Steane, Hartman & Co., Hartford .....	6.70	6.56	.....
18679	Dixie, I. C. 48766 .....	Steane, Hartman & Co., Hartford .....	6.55	6.56	.....
18680	Dixie, S. A. L. 19208 ....	Steane, Hartman & Co., Hartford .....	6.94	6.56	.....
18681	Dixie, A. C. L. 26118 .....	Steane, Hartman & Co., Hartford .....	6.83	6.56	.....
18682	Dixie, 7401 .....	Steane, Hartman & Co., Hartford .....	6.58	6.56	.....
18683	Dixie, N. C. St. L. 11990..	Steane, Hartman & Co., Hartford .....	6.75	6.56	.....
18684	Dixie, A. C. L. 41430 .....	Steane, Hartman & Co., Hartford .....	6.44	6.56	.....
18685	Dixie I. C. 170018 .....	Steane, Hartman & Co., Hartford .....	6.52	6.56	.....
18686	Dixie, L. & A. 2652 .....	Steane, Hartman & Co., Hartford .....	6.36	6.56	.....
18687	Dixie, 31537 .....	Steane, Hartman & Co., Hartford .....	6.30	6.56	.....
18688	Dixie, 8648 .....	Steane, Hartman & Co., Hartford .....	5.66	6.56	.....
18689	Dixie, C. S. M. & O. 11234	Steane, Hartman & Co., Hartford .....	6.90	6.56	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen:		Cost per ton.
			Found.	Guaranteed.	
	Humphreys-Godwin Co., Memphis, Tenn.				
18690	Dixie, 245801 .....	Hatheway & Steane, Hartford.	6.70	6.56	.....
28691	Dixie, 255944 .....	Hatheway & Steane, Hartford.	6.67	6.56	.....
28692	Dixie, 7841 .....	Hatheway & Steane, Hartford.	6.94	6.56	.....
18693	Dixie, 7227 .....	Hatheway & Steane, Hartford.	6.90	6.56	.....
18694	Dixie, 36302 .....	Hatheway & Steane, Hartford.	6.67	6.56	.....
18695	Dixie, 130931 .....	Hatheway & Steane, Hartford.	6.47	6.56	.....
18729	Dixie (old stock) .....	American Sumatra Tobacco Co., Bloomfield .....	7.26	6.56	.....
18743	Dixie, 136020 .....	Hatheway & Steane, Hartford.	6.98	6.56	\$48.65
18744	Dixie, 172739 .....	Hatheway & Steane, Hartford.	6.42	6.56	48.65
18745	Dixie, 37332 .....	Hatheway & Steane, Hartford.	6.78	6.56	48.65
18746	Dixie, 7774 .....	Hatheway & Steane, Hartford.	6.96	6.56	48.65
18747	Dixie, 6715 .....	Hatheway & Steane, Hartford.	6.53	6.56	48.65
18841	Dixie, 7448 .....	Hatheway & Steane, Hartford.	6.30	6.56	48.65
18842	Dixie, 90276 .....	Hatheway & Steane, Hartford.	6.90	6.56	48.65
18860	Dixie, 26655 .....	Steane, Hartman Co., Hartford	6.62	6.56	.....
18861	Dixie, 4564 .....	Steane, Hartman Co., Hartford	6.75	6.56	.....
18862	Dixie, 22450 .....	Steane, Hartman Co., Hartford	6.67	6.56	.....
18929	Dixie, 15676 .....	John B. Parker, Poquonock ...	6.29	6.56	49.15
18987	Dixie, 609197 .....	American Sumatra Tobacco Co., Bloomfield .....	7.00	6.56	.....
18988	Dixie, 17729 .....	American Sumatra Tobacco Co., Bloomfield .....	6.88	6.56	.....
19218	Dixie, 25905 .....	Hatheway & Steane, Hartford	6.14	6.56	48.65
19223	Dixie, 31203 .....	Hatheway & Steane, Hartford	6.41	6.56	48.65
19226	Dixie, 15676 .....	Hatheway & Steane, Hartford	6.47	6.56	48.65
19229	Dixie, 20138 .....	Hatheway & Steane, Hartford	6.92	6.56	48.65
19394	Dixie, 120757 .....	American Sumatra Tobacco Co., Bloomfield .....	6.84	6.56	.....
19396	Dixie, 130842 .....	American Sumatra Tobacco Co., Bloomfield .....	6.94	6.56	.....
19397	Dixie, 265455 .....	American Sumatra Tobacco Co., Bloomfield .....	6.89	6.56	.....
19420	Dixie, L. & N. 101808 ..	American Sumatra Tobacco Co., Bloomfield .....	6.27	6.56	.....
19509	Dixie .....	Station Agent from E. Man- chester & Sons, Winsted ....	6.36	6.56	54.00
18515	90458 .....	Griffin Tobacco Co., North Bloomfield .....	6.54	...	.....
18516	501660 .....	Griffin Tobacco Co., North Bloomfield .....	6.74	...	.....
18517	5179 .....	Griffin Tobacco Co., North Bloomfield .....	6.92	...	.....

TABLE III. ANALYSES OF COTTON SEED MEAL—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.
			Found.	Guaranteed	
	Humphreys-Godwin Co. —Continued.				
18518	7833 .....	Griffin Tobacco Co., North Bloomfield .....	7.05	....	....
18519	34437 .....	Griffin Tobacco Co., North Bloomfield .....	7.14	....	....
18593	3825 .....	American Sumatra Tobacco Co., Bloomfield .....	6.22	....	....
18594	171148 .....	American Sumatra Tobacco Bloomfield .....	6.86	....	....
	L. B. Lovitt & Co., Memphis, Tenn.				
18970	Lovit, N.Y.C. & St. L. N.K.P. 28292 .....	Spencer Bros., Inc., Suffield...	6.60	6.58	....
18971	Lovit, A. C. L. 43853 .....	Spencer Bros., Inc., Suffield...	6.63	6.58	\$53.50
18972	Lovit, G. S. & F. 4684 .....	Spencer Bros., Inc., Suffield...	6.71	6.58	....
19355	Lovit .....	Station Agent from G. E. Ackley, New Milford .....	6.77	6.58	56.00
18830	Neal's Choice, Wabash 79333 .....	Spencer Bros., Inc., Suffield...	7.18	6.88	55.50
19024	Neal's Choice, C. Ga. 3471	Spencer Bros., Inc., Suffield...	6.96	6.88	55.50
19078	Neal's Choice, B. & O. 168940 .....	Station Agent from J. H. Dodd,	7.00	6.88	55.50
19512	Neal's Choice .....	New Milford .....	7.02	6.88	56.00
19542	Neal's Choice, 42142 .....	American Sumatra Tobacco Co., Bloomfield .....	7.02	6.88	....
19543	Neal's Choice, 64913 .....	American Sumatra Tobacco Co., Bloomfield .....	6.52	6.88	....
19544	Neal's Choice, 35934 .....	American Sumatra Tobacco Co., Bloomfield .....	7.00	6.88	....
19545	Neal's Choice, 174594 .....	American Sumatra Tobacco Co., Bloomfield .....	6.99	6.88	....
19239	Thirty Six .....	Station Agent from A. D. Bridge's Sons, Hazardville..	5.82	5.75	52.00
18831	R. I. 156833 .....	Spencer Bros., Inc., Suffield...	7.17	6.88	55.50
18832	A. C. L. 42141 .....	Spencer Bros., Inc., Suffield...	6.97	6.88	55.50
	Lyle & Lyle, Huntsville, Ala.				
19510	Economy .....	Station Agent from E. Manchester & Sons, Winsted ....	5.74	5.76	40.00
19756	Economy N. Y. C. 28927.	The Coles Co., Middletown ...	5.58	5.76	56.00
	W. C. Nothern, Little Rock, Ark.				
19027	Standard .....	A. E. Plant Sons Co., Branford	5.74	5.76	....

TABLE III. ANALYSES OF COTTON SEED MEAL—*Concluded.*

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent nitrogen.		
			Found.	Guaranteed.	Cost per ton.
	<b>Olds &amp; Whipple, Hartford.</b>				
18989	1 .....	Clark Bros., Poquonock .....	6.72	6.56	\$48.65
18990	2 .....	Clark Bros., Poquonock .....	6.64	6.56	48.65
18991	3 .....	Clark Bros., Poquonock .....	6.58	6.56	48.65
18992	4 .....	Clark Bros., Poquonock .....	6.60	6.56	48.65
	<b>The Rogers &amp; Hubbard Co., Portland.</b>				
19147	N. C. & St. L. 15680 .....	Station Agent from A. N. Shepard & Son, Hartford .....	6.40	5.75	.....
19149	C. & W. C. 1150 .....	Station Agent from A. N. Shepard & Son, Hartford .....	5.96	5.75	.....
17959	Lot 1 .....	L. J. Prior, East Hartford.....	6.93	...	.....
17960	Lot 2 .....	L. J. Prior, East Hartford.....	7.04	...	.....

## CASTOR POMACE.

## GUARANTIES.

Of the 61 samples examined, 50 had a guaranty of 4.50 per cent nitrogen, and most of them far exceeded their guaranty, the average nitrogen in them being 5.30 per cent. Nine had a guaranty of 5 per cent nitrogen; their average content was 5.25 per cent, and one fell below the guaranty. Two were guaranteed 5.75 or higher, and one of these, No. 19454, stated to be sold by the Eastern States Exchange, was below guaranty by 1.32 per cent, while the price quoted was far above the average price.

## COST.

The average cost per ton, chiefly in car lots, has been about \$31.46, and the average cost of nitrogen per pound 29.9 cents per pound.

TABLE IV. ANALYSES OF CASTOR POMACE.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.	Nitrogen costs cents per pound.
			Guaranteed	Found.		
19447	The American Agricultural Chemical Co., New York City.	A. B. & R. W. Hitchcock, Warehouse Point .....	4.53	5.50	....	...
19448		A. B. & R. W. Hitchcock, Warehouse Point .....	4.53	5.24	....	...
19385		Station Agent from Joseph Rostek, Melrose .....	4.53	5.57	\$34.00	30.5
19080	Erie 74592	Spencer Bros., Inc., Suffield.	4.53	5.12	34.00	33.2
19287		Station Agent from F. O. Williams, Silver Lane .....	4.53	5.06	32.00	31.6
18993	Apothecaries Hall Co., Waterbury.	Clark Bros., Poquonock ....	4.52	5.22	29.50	28.3
19213	195354	Hatheway & Steane, Hartford .....	4.52	5.04	28.50	28.3
19214	62465	Hatheway & Steane, Hartford .....	4.52	5.01	28.50	28.4
19222		Hatheway & Steane, Hartford .....	4.52	4.66	28.50	30.6
19233	189210	Hatheway & Steane, Hartford .....	4.52	5.93	28.50	24.0
18778	C. C. & St. L. 52366	Spencer Bros., Inc., Suffield.	4.52	5.53	32.00	28.9
18779	N. Y. C. 246234	Spencer Bros., Inc., Suffield.	4.52	6.24	32.00	25.6
18780	N. Y. C. 244479	Spencer Bros., Inc., Suffield.	4.52	6.00	32.00	26.7
18969		Station Agent from Spencer Bros., Inc., Suffield .....	4.52	5.78	30.00	25.9
19104	N. Y. C. 115313	Spencer Bros., Inc., Suffield.	4.52	4.94	....	...
19236	N. Y. C. 217334	Spencer Bros., Inc., Suffield.	4.52	4.84	32.00	33.0
19237	N. Y. C. 218674	Spencer Bros., Inc., Suffield.	4.52	5.08	34.00	33.5
19320	N. Y. C. 255508	Spencer Bros., Inc., Suffield.	4.52	4.76	32.00	33.6
19321	N. Y. C. 212684	Spencer Bros., Inc., Suffield.	4.52	4.92	32.00	32.5
19459	Armour Fertilizer Works, New York City.	Station Agent from J. H. McAllister, Middletown Grain Assoc., Cromwell .....	5.75	5.78	33.00	28.6
18540	Baker Castor Oil Co., New York City.	American Sumatra Tobacco Co., Bloomfield .....	4.50	6.04	....	...
18541	89166	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.61	....	...
18653	35716	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.80	....	...
18662	27149	American Sumatra Tobacco Co., Bloomfield .....	4.50	4.89	....	...
	97750	American Sumatra Tobacco Co., Bloomfield .....				

TABLE IV. ANALYSES OF CASTOR POMACE—Continued.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.	Nitrogen costs cents per pound.
			Guarante l	Found.		
	Baker Castor Oil Co. —Continued.					
18663	560620 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.20	.....	1945
18664	16379 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	6.25	.....	1942
18762	4726 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.38	.....	1963
18763	94558 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.43	.....	1945
18764	67326 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	4.81	.....	1945
18818	76091 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.11	.....	1945
18819	560566 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	4.70	.....	1945
18820	42976 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.08	.....	1945
18821	N. Y. C. 221066 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	4.90	.....	1891
18949	94485 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.32	.....	1910
19204	47750 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.62	.....	1920
19205	16761 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.36	.....	1920
19206	32505 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	4.68	.....	1891
19207	32134 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.44	.....	1891
19208	19105 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.44	.....	1891
19209	94343 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	5.45	.....	1891
19210	40691 .....	American Sumatra Tobacco Co., Bloomfield .....	4.50	4.99	.....	1891
19060	.....	Station Agent from Fassler & Silberman, Hartford...	4.50	5.48	\$32.00	29.2
18520	562628 .....	Griffin Tobacco Co., North Bloomfield .....	4.50	5.20	.....	1901
18521	26204 .....	Griffin Tobacco Co., North Bloomfield .....	4.50	6.03	.....	1891
19212	206709 .....	Hatheway & Steane, Hart- ford .....	4.50	5.15	28.50	27.7
18715	.....	Huntington Bros., Windsor.	4.94	5.43	31.00	28.5
18959	.....	Station Agent from Olds & Whipple, Inc., Hartford...	4.50	5.03	31.00	30.8
19271	.....	H. E. Wells, East Windsor Hill .....	4.50	5.64	32.00	28.4

TABLE IV. ANALYSES OF CASTOR POMACE—Concluded.

Station No.	Manufacturer or Jobber, Car No. or Mark.	Purchased, Sampled or Sent by	Per cent Nitrogen.		Cost per ton.	Nitrogen costs cents per pound.
			Guaranteed	Found		
19045	Berkshire Fertilizer Co., Bridgeport.	Station Agent from factory.	5.00	5.77	.....	....
19422	80989	J. E. Shepard, South Windsor .....	5.00	4.65	\$28.00	30.1
19653	E. D. Chittenden Co., Bridgeport.	Station Agent from F. J. Meskill, Broad Brook .....	4.93	5.04	.....	....
19454	Eastern States Farmers' Exchange, Springfield, Mass.	Station Agent from C. M. Beeman, Granby Co-operative Assoc., Granby .....	6.18	4.86	39.50	40.6
18965	L. T. Frisbie Co., New Haven, Conn.	Station Agent from factory.	4.51	5.80	.....	....
19105		J. E. Shepard, South Windsor .....	4.51	4.70	28.00	29.8
19294		Station Agent from J. E. Shepard, South Windsor..	4.51	4.96	28.00	28.2
18979	Olds & Whipple, Inc., Hartford.	L. Wetstone, Hartford .....	4.94	5.20	31.00	20.8
18980	P. & R. 5828	L. Wetstone, Hartford .....	4.94	5.44	31.00	28.5
	The Rogers & Hubbard Co., Portland.					
18932		Edward D. Douglas, Suffield	5.35	5.44	32.30	29.7
19435		Station Agent from A. R. Fairbanks, Windsor .....	5.00	5.18	35.00	33.8
19612		A. R. Fairbanks, Windsor...	5.00	5.11	35.00	34.2
18905	Sanderson Fertilizer & Chemical Co., New Haven.	Station Agent from the factory .....	4.53	5.18	32.00	30.9

## II. RAW MATERIALS CHIEFLY VALUABLE FOR PHOSPHORIC ACID.

### RAW ROCK PHOSPHATE.

Two samples were analyzed as follows:

**19735.** Ground Rock Phosphate. Sold by Robin Jones Phosphate Co., Nashville, Tenn. Stock of T. H. Eldredge, Norwich.

**19005.** Ground Raw Rock Phosphate Flour. Sold by W. L. Mitchell, New Haven. Sent by W. A. Simpson, Wallingford.

TABLE V. ANALYSES OF RAW ROCK PHOSPHATE.

Station No. ....	19735	19005
Total phosphoric acid:		
Found .....	28.00	30.50
Guaranteed .....	28.00	30.00
Cost per ton .....	\$18.00	\$19.50
Phosphoric acid costs cents per pound	3.2	3.2

### PRECIPITATED BONE PHOSPHATE.

In Table VI are analyses of 13 samples.

## PRECIPITATED BONE PHOSPHATE.

TABLE VI. ANALYSES OF PRECIPITATED BONE PHOSPHATE.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Phosphoric Acid.				Cost per ton of Phosphoric Acid.
			Citrate-insoluble.	Total.	Found.	"Available" Guaranteed.	
<i>Sampled by Station:</i>							
19605	Apothecaries Hall Co., Waterbury	Sampled at factory .....	1.65	39.55	37.90	35.00	.....
19620	Arnour Fertilizer Works, New York .....	Middletown Grain Assoc., J. H. McAllister, Cromwell .....	0.15	37.65	37.50	36.00	\$60.40
19059	Olds & Whipple, Hartford .....	Fassler & Silberman, Hartford .....	0.92	39.36	38.44	40.00	1.15
<i>Sampled by Purchaser:</i>							
18595	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	0.38	39.70	39.32	.....	.....
18654	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	0.18	39.86	39.68	.....	.....
18655	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	0.95	38.12	37.17	.....	.....
18675	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	0.63	37.22	36.59	.....	.....
18727	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	none	38.76	38.76	.....	.....
18765	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	none	38.84	38.84	.....	.....
18777	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	none	38.68	38.68	.....	.....
18950	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	none	38.65	38.65	.....	.....
18951	American Glue Co., Boston, Mass.	American Sumatra Tobacco Co., Bloomfield .....	0.95	37.20	37.15	.....	.....
18913	.....	Huntington Bros., Windsor .....	0.55	40.15	39.60	.....	.....

The complete analysis of one sample, No. 18913, shows the average percentage composition of this material:

Lime .....	33.24
Magnesia .....	0.32
Phosphoric acid .....	40.15
Sulphuric acid .....	1.19
Chlorine .....	0.70
Water (free and combined) .....	24.40
	100.00

This consists largely of the dicalcic phosphate not readily soluble in water, but very easily soluble in ammonium citrate as used for determining "reverted" phosphoric acid.

All of the samples examined have been of good quality, and the average cost of available phosphoric acid has been about 8.5 cents per pound.

#### DISSOLVED ROCK PHOSPHATE OR ACID PHOSPHATE.

Thirty-three analyses are given in Table VII.

#### GUARANTIES OF AVAILABLE PHOSPHORIC ACID.

With one exception, all of the samples had a guaranty of 16 per cent available.

Only three of the number failed to meet their guaranty.

No. 19334, sold by the Coe-Mortimer Co., was deficient by 1.02 per cent. No. 19530, sold by the Levering Fertilizer Co., by 0.48 per cent. No. 19699, sold by the American Agricultural Chemical Co., by 0.28 per cent.

#### COMPOSITION AND COST.

The average content of phosphoric acid was 17.3 per cent, of which 16.6 per cent was available.

Cost. The reported costs show wide differences, ranging from \$38.25 to \$18.00. Early in the year the wholesale prices fell considerably and "forced sales" and "resales" resulted in much lower prices than had previously prevailed.

The average cost of available phosphoric acid in all the samples was about 6.9 cents per pound, but leaving out the three highest prices, the average price per ton was \$21.59, which would make the cost of available phosphoric acid about 6.5 cents.

TABLE VII. ANALYSES OF ACID PHOSPHATE.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Phosphoric Acid.						Station No.	
			Citrato-insoluble.			"Available"				
			Total.	Found.	Guaranteed.	Total.	Found.	Guaranteed.		
<i>Sampled by Station:</i>										
19297	American Agricultural Chemical Co., New York .....	F. W. Martin, Clark's Corner .....	1.63	17.56	15.93	16	25.00	7.8	19297	
19067	American Agricultural Chemical Co., New York .....	Spencer Bros., Suffield .....	0.86	17.08	16.22	16	21.00	6.5	19067	
18867	Apothecaries Hall Co., Waterbury .....	R. W. Hine, Cheshire .....	0.45	16.48	16.03	16	...	..	18867	
19037	Armour Fertilizer Works, New York .....	J. D. Kelsey & Son, Madison .....	0.64	16.73	16.09	16	22.00	6.8	19037	
18879	Berkshire Fertilizer Co., Bridgeport .....	Sampled at factory .....	0.15	18.14	17.99	16	19.00	5.3	18879	
19143	Berkshire Fertilizer Co., Bridgeport .....	John Dorsey, Farmers' Exchange, Putnam .....	0.13	17.05	16.92	16	18.41	5.4	19143	
19163	Bowker Fertilizer Co., New York .....	P. Schwartz, New London .....	1.40	17.60	16.20	16	23.00	7.1	19163	
19112	Bowker Fertilizer Co., New York .....	Goodsell Bros., Bristol .....	0.90	17.58	16.68	16	23.00	6.9	19112	
18789	Everett B. Clark Seed Co., Milford .....	Sampled at factory .....	0.22	17.01	16.79	16	24.00	7.1	18789	
19466	E. D. Chittenden Co., Bridgeport .....	E. J. Bantle, Glastonbury .....	0.15	17.05	16.90	16	23.75	7.0	19466	
19334	The Coc-Mortimer Co., New York .....	J. B. McARDLE, Greenwich .....	0.85	15.83	14.98	16	30.00	10.0	19334	
19015	Consolidated Rendering Co., Boston, Mass. ....	Fred Farwell, Vegetable Growers' Assoc., Danbury .....	0.50	16.98	16.48	16	18.00	5.5	19015	
18801	Consolidated Rendering Co., Boston, Mass. ....	L. T. Frisbie Co., New Haven .....	0.56	17.42	16.86	16	...	..	18801	
19043	Eastern States Farmers' Exchange, Springfield, Mass. ....	J. D. Kelsey & Son, Madison .....	0.58	17.18	16.60	16	21.40	6.4	19043	
19485	International Agricultural Corp., Boston, Mass. ....	Harvey Beaumont, Wallingford .....	0.53	16.94	16.41	16	26.00	7.9	19485	
19530	Levering Fertilizer Co., Baltimore, Md. ....	F. O. Brown, Colchester .....	1.16	16.68	15.52	16	20.00	6.4	19530	

TABLE VII. ANALYSES OF ACID PHOSPHATE—Concluded.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Phosphoric Acid.				Station No.
			Citrate-insoluble.	"Available," Guaranteed.	"Available," Found.	Total.	
19496	W. L. Mitchell, New Haven .....	Ansonia Flour & Grain Co. ....	1.88	17.05	15.17	*	19496
18870	Olds & Whipple, Inc., Hartford .....	Sampled at factory .....	0.46	16.94	16.48	16	25.00
19246	The Rogers & Hubbard Co., Port- land .....	Willimantic Grain Co., Willimantic .....	0.06	16.39	16.33	16	22.50
19502	F. S. Royster Guano Co., Balti- more, Md. ....	Rockville Coal & Grain Co., Rock- ville .....	1.73	18.00	16.27	16	24.00
18795	Sanderson Fertilizer & Chemical Co., New Haven .....	Sampled at factory .....	0.96	17.77	16.81	16	25.00
19629	Virginia-Carolina Chemical Co., New York .....	F. A. Waters, Middlebury .....	0.40	17.45	17.05	16	25.00
19506	Wilcox Fertilizer Co., Mystic .....	Sampled at factory .....	0.15	17.65	17.50	16	25.00
<i>Sampled by Purchaser:</i>							
19699	American Agricultural Chemical Co., New York .....	E. N. Austin, Suffield .....	0.86	16.58	15.72	16	24.00
18750	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford .....	0.28	16.45	16.17	16	24.00
18855	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford .....	none	17.13	17.13	16	38.25
18856	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford .....	none	16.58	16.58	16	19.00
18857	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford .....	0.64	17.04	16.40	16	19.00
19221	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford .....	0.25	18.83	18.58	16	19.00
19231	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford .....	0.75	17.60	16.85	16	19.00
19025	Consolidated Rendering Co., Bos- ton, Mass. ....	A. E. Plant Sons Co., Branford .....	0.63	18.05	17.42	16	19.00
18628	Olds & Whipple, Inc., Hartford .....	American Sumatra Tobacco Co., Bloomfield .....	0.14	18.73	18.59	16	19.00
19538	Sanderson Fertilizer Co., New Ha- ven .....	H. F. Johnson, Norwich, Conn. ....	0.65	18.50	17.85	16	18.25

\* Guaranteed 16% total Phosphoric Acid.

5.1

19538

### III. RAW MATERIALS CONTAINING POTASH AS THE CHIEF ACTIVE INGREDIENT.

Here are given analyses of 56 samples. Forty-nine of them are in Table VIII.

#### CARBONATE OF POTASH.

Two or three of the samples are of rather lower grade than the others.

The potash in the two samples whose prices are quoted cost 8 cents per pound.

#### MURIATE OF POTASH.

##### GUARANTIES.

All of the 16 samples contain as much or more potash than is guaranteed, except one, No. **19744**, which has 0.6 per cent less.

##### COST.

The average content of potash has been 50.80 per cent. The prices have ranged all the way from \$60.50 to \$45.00. The average of those here given is \$51.60, which would make the cost of potash about 5.1 cents per pound.

#### HIGH-GRADE SULPHATE OF POTASH.

Seventeen samples have been analyzed, seven of which were drawn by the Station agent.

Four of these do not meet their guaranties.

No. **19411** contained some phosphates and a large amount of matter insoluble in water. The seller took steps to pay a rebate of \$1.24 per unit of potash.

The average per cent of potash in these samples is 48.69 and the average cost per pound of potash is 5.7 cents, ranging from 7.9 to 4.9 cents.

#### DOUBLE SULPHATE OF POTASH AND MAGNESIA, SOMETIMES CALLED "DOUBLE MANURE SALTS."

Five samples have been analyzed, two of them carrying less than the guaranteed potash. The analyses appear in the table, but more complete analyses of some of them are as follows:

## ANALYSES OF DOUBLE SULPHATE OF POTASH AND MAGNESIA.

	18873	18796	18839	19698	18915
Potash .....	26.38	27.44	27.32	25.53	27.36
Lime .....	2.39	....	1.18	....	6.47
Magnesia .....	8.34	11.25	10.89	9.03	6.04
Chlorine .....	2.34	4.18	2.24	2.65	2.38
Sulphuric acid .....	36.98	46.67	41.50	....	46.60

## MANURE SALTS.

This is a material very different from the double sulphate of potash and magnesia or "double manure salts" mentioned above. Seven analyses were made, as follows: 18659, stock of Apothecaries Hall Co., Waterbury. Samples 19280 to 19284 represent five different car lots sent by J. E. Shepard, South Windsor, and bought through the L. T. Frisbie Co., New Haven. 19697 sampled and sent by E. N. Austin, Suffield.

The analyses are as follows:

## ANALYSES OF CRUDE POTASH SALTS.

	18659	19280	19281	19282	19283	19284	19697
Potash .....	20.34	25.44	24.13	27.99	26.60	26.10	22.20
Lime .....	3.16	....	....	....	....	....	....
Magnesia .....	0.46	....	....	....	....	....	1.93
Chlorine .....	48.83	47.58	49.60	48.84	48.24	49.70	37.14
Sulphuric acid .....	1.86	....	....	....	....	....	....
Insoluble in acid .....	2.08	....	....	....	....	....	....

The average per cent of potash is 24.70, and the cost \$25 per ton, making the cost of potash 5.1 cents per pound.

It will be seen that in the double sulphate of potash and magnesia the potash is nearly all in form of sulphate, the amount of magnesia is considerable and that of chlorine is small.

But in the "Potash Salts" almost all the potash is in form of muriate. The amount of magnesia is small and that of chlorine very large.

This salt is quite unfit for a tobacco fertilizer, though the quantity of potash is not much smaller than in the double sulphate, which is an excellent source of potash for tobacco.

## POTASH SALTS.

89

TABLE VIII. ANALYSES OF POTASH SALTS.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Cost per ton.	Potash costs cents per pound.	Station No.					
			Pound.	Guaranteed.								
CARBONATE OF POTASH.												
<i>Sampled by Purchaser:</i>												
18542	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	60.84	....	....	18542						
18725	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	63.00	....	....	18725						
18726	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	60.04	....	....	18726						
18759	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	60.12	....	....	18759						
18760	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	60.24	....	....	18760						
18761	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	62.00	....	....	18761						
18822	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	62.68	....	....	18822						
18948	A. Klipstein, New York .....	American Sumatra Tobacco Co., Bloomfield .....	58.50	....	....	18948						
18851	Olds & Whipple, Inc., Hartford..	Hatheway & Steane, Hartford .....	52.80	....	85.00	8.0	18851					
18852	Olds & Whipple, Inc., Hartford..	Hatheway & Steane, Hartford .....	53.08	....	85.00	8.0	18852					
MURIATE OF POTASH.												
<i>Sampled by Station:</i>												
19181	American Agricultural Chemical Co., New York .....	P. Schwartz & Co., New London .....	50.67	48.00	....	....	19181					
18868	Apothecaries Hall Co., Waterbury .....	J. R. Reinhard, West Cheshire .....	51.06	50.00	....	....	18868					
19289	Armour Fertilizer Works, New York .....	J. O. Fox & Co., Putnam .....	50.06	48.00	55.00	5.5	19289					
18877	Berkshire Fertilizer Co., Bridgeport .....	Sampled at factory .....	50.28	50.00	45.00	4.5	18877					

TABLE VIII. ANALYSES OF POTASH SALTS—Continued.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Potash costs per pound.	Station No.
			Guaranteed.	Found.		
19145	Berkshire Fertilizer Co., Bridgeport .....	John Dorsey, Farmers' Exchange, Putnam .....	%	%	\$	19145
19016	Consolidated Rendering Co., Boston .....	Fred Farwell, Vegetable Growers' Assoc., Danbury .....	52.02	50.00	46.00	4.4
18803	Consolidated Rendering Co., Boston .....	L. T. Frishie Co., New Haven .....	50.40	50.00	55.00	5.5
19744	Consolidated Rendering Co., Boston .....	Knowles-Lombard Co., Guilford .....	50.98	50.00	....	....
19450	Eastern States Farmers' Exchange, Springfield, Mass. ....	C. K. Andrews, West Woods Farmers' Co-op. Assoc., Mt. Carmel ....	49.40	50.00	48.00	4.9
19531	Levering Fertilizer Co., Baltimore, Md. ....	F. O. Brown, Colchester ....	50.20	50.00	49.60	4.9
18872	Olds & Whipple, Inc., Hartford .....	Sampled at factory .....	52.56	50.40	50.00	4.8
19065	Wilcox Fertilizer Co., Mystic... .	Spencer Bros., Suffield .....	50.70	50.00	53.00	5.0
		<i>Samples by Purchaser:</i>				
19028	Consolidated Rendering Co., Boston .....	A. E. Plant Sons Co., Branford .....	50.16	50.00	48.00	4.8
19444	National Fertilizer Co., New York .....	A. B. & R. W. Hitchcock, Warehouse Point .....	50.60	48.00	60.50	6.0
19445	National Fertilizer Co., New York .....	A. B. & R. W. Hitchcock, Warehouse Point .....	50.02	48.00	60.50	6.0
19345	Worcester Rendering Co., Auburn, Mass. ....	E. C. Rogers, Putnam .....	51.10	50.00	56.00	4.9

TABLE VIII. ANALYSES OF POTASH SALTS—Continued.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Potash costs per pound,	cents per pound.	Station No.					
			Pound.	Guaranteed.								
<b>High-Grade SULPHATE OF POTASH.</b>												
<i>Sampled by Station:</i>												
19301	American Agricultural Chemical Co., New York	C. F. Allen, Warehouse Point	50.44	48.00	58.50	5.8	19301					
19449	Apothecaries Hall Co., Waterbury	Sampled at factory	49.28	48.00	... .	...	19449					
19327	Armour Fertilizer Works, New York	J. H. McAllister, Middletown Grain Assoc., Cromwell	48.32	48.00	58.50	6.1	19527					
18378	Berkshire Fertilizer Co., Bridgeport	Sampled at factory	50.20	48.00	55.00	5.5	18378					
18799	Consolidated Rendering Co., Boston	L. T. Frisbie Co., New Haven	49.08	48.00	...	...	18799					
19411	Eastern States Farmers' Exchange, Springfield, Mass.	C. M. Beeman, Granby Co-op. Assoc., Granby	39.12	48.00	61.45	7.9	19411					
18871	Olds & Whipple, Inc., Hartford	Sampled at factory	49.08	48.60	61.00	6.2	18871					
<i>Sampled by Purchaser:</i>												
19424	L. T. Frisbie Co., New Haven	J. E. Shepard, South Windsor	49.32	48.00	48.50	4.9	19424					
18716	Olds & Whipple, Inc., Hartford	Huntington Bros., Windsor	49.88	48.60	50.27	5.0	18716					
18848	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.94	48.60	52.87	5.2	18848					
18849	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.94	48.60	51.87	5.1	18849					
18850	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.44	48.60	51.87	5.1	18850					
19219	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	48.14	48.60	51.20	5.3	19219					
19230	Olds & Whipple, Inc., Hartford	Hatheway & Steane, Hartford	50.36	48.60	51.20	5.1	19230					
19611	The Rogers & Hubbard Co., Portland	A. R. Fairbanks, Windsor	49.53	46.00	60.00	6.1	19611					
18934	The Rogers & Hubbard Co., Portland	Edward O. Douglass, Suffield	46.10	48.00	57.50	6.2	18934					

TABLE VIII. ANALYSES OF POTASH SALTS—Concluded.

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.	Potash.		Potash per pound. cents per pound.	Station No.
			Found.	Guaranteed.		
19541	Sanderson Fertilizer Co., New Haven .....	Preston Co-operative Exchange, Preston .....	46.64	48.00	\$	19541
	DOUBLE MANURE SALTS.					
	<i>Sampled by Station:</i>					
18873	Olds & Whipple, Inc., Hartford..	Sampled at factory .....	26.38	25.90	....	18873
18796	Sanderson Fertilizer & Chemical Co., New Haven .....	Sampled at factory .....	27.44	26.00	....	18796
	<i>Sampled by Purchaser:</i>					
18839	American Agricultural Chemical Co., New York .....	Ernest N. Austin, Suffield .....	27.32	20.00	23.00	4.2
19698	American Agricultural Chemical Co., New York .....	Ernest N. Austin, Suffield .....	25.53	26.00	40.00	7.8
18915		Huntington Bros., Windsor .....	27.36	28.00	....	18915
	UNNAMED POTASH MATERIAL.					
	<i>Sampled by Purchaser:</i>					
19716	L. T. Frisbie Co., New Haven .....	Knowles-Lombard Co., Guilford .....	48.33	51.29	....	19716

#### IV. MATERIALS CONTAINING NITROGEN AND PHOSPHORIC ACID.

##### FISH MANURES.

Twenty-six analyses are given in Table IX. All of the samples but one meet their guaranties. The average per cent of nitrogen in them was 8.74, the phosphoric acid 7.23, and average cost \$54.99.

Allowing 8 cents per pound for available phosphoric acid, nitrogen has cost about 24.8 cents per pound in fish manures.

It will be noticed that "herring meal" contains half as much phosphoric acid and somewhat less nitrogen than "fish scrap," which is made from menhaden or white fish.

TABLE IX. ANALYSES OF

Station No.	Manufacturer or Wholesale Dealer.	Dealer or Purchaser.
19179	<i>Sampled by Station:</i>	
19008	American Agricultural Chemical Co., New York .....	F. O. Williams, Silver Lane .....
19528	Apothecaries Hall Co., Waterbury..	Sampled at factory .....
19044	Armour Fertilizer Works, New York .....	J. H. McAllister, Middletown Grain Assoc., Cromwell .....
19652	Berkshire Fertilizer Co., Bridgeport	Sampled at factory .....
19764	E. D. Chittenden Co., Bridgeport..	F. J. Meskill, Broad Brook .....
19476	Consolidated Rendering Co., Boston .....	T. J. Coleman, Warehouse Point....
18966	Eastern States Farmers' Exchange,	C. M. Beeman, Granby Co-operative
19058	Springfield .....	Assoc., Granby .....
19688	L. T. Frisbie Co., New Haven ....	Sampled at factory .....
19238	Olds & Whipple, Inc., Hartford...	Fassler & Silberman, Hartford .....
19083	Sanderson Fertilizer & Chemical	C. S. Smith, East Haven .....
19029	Co., New Haven .....	Spencer Bros., Suffield .....
18543	Wilcox Fertilizer Co., Mystic .....	
18840	<i>Sampled by Purchaser:</i>	
19006*	American Agricultural Chemical Co., New York .....	Ernest Austin, Suffield .....
19701*	American Agricultural Chemical Co., New York .....	Ernest Austin, Suffield .....
19083	American Agricultural Chemical Co., New York .....	Ernest Austin, Suffield .....
19029	Berkshire Fertilizer Co., Bridgeport	J. E. Shepard, South Windsor .....
18543	L. T. Frisbie Co., New Haven ....	A. E. Plant Sons Co., Branford .....
18596	Olds & Whipple, Inc., Hartford....	American Sumatra Tobacco Co.,
18728	Olds & Whipple, Inc., Hartford....	Bloomfield .....
18845	Olds & Whipple, Inc., Hartford....	American Sumatra Tobacco Co.,
18846	Olds & Whipple, Inc., Hartford....	Bloomfield .....
18847	Olds & Whipple, Inc., Hartford....	American Sumatra Tobacco Co.,
19224	Olds & Whipple, Inc., Hartford....	Bloomfield .....
18714	Olds & Whipple, Inc., Hartford....	Hatheway & Steane, Hartford .....
18930	Rogers & Hubbard Co., Portland..	Hatheway & Steane, Hartford .....
17901	.....	Hatheway & Steane, Hartford .....

\* "Herring meal."

## FISH MANURE.

Nitrogen.				Phosphoric Acid.				Cost per ton.	Nitrogen costs cents per pound, †	Station No.
As ammonia.	As organic.	Total found.	Total guaranteed.	Citrate-insoluble.	Total found.	Total guaranteed.				
%	%	%	%	%	%	%				
0.10	8.35	8.45	8.23	....	6.80	6.00	\$60.00	....	19179	
0.37	8.80	9.17	8.20	1.17	7.03	5.50	60.00	27.6	19008	
1.06	9.36	10.42	9.87	0.15	5.98	....	50.00	19.5	19528	
0.88	7.71	8.59	8.23	0.75	7.55	6.00	....	....	19044	
1.35	7.19	8.54	8.00	0.70	7.28	6.00	....	....	19652	
0.11	8.30	8.41	8.20	....	7.30	6.66	....	....	19764	
1.24	8.72	9.96	9.04	....	6.43	....	57.45	....	19476	
0.20	8.31	8.51	8.20	1.63	7.25	6.66	....	....	18966	
0.18	8.24	8.42	8.23	1.48	7.20	5.00	51.50	23.8	19058	
0.09	8.94	9.03	8.23	1.80	7.68	6.00	....	....	19688	
0.16	9.62	9.78	9.04	1.58	7.08	6.00	59.00	24.6	19238	
0.14	8.26	8.40	8.23	1.33	6.81	6.00	56.00	26.8	18840	
0.10	8.54	8.64	8.23	0.30	3.25	6.00	60.00	32.0	19006	
....	....	8.19	8.23	0.25	3.50	....	55.00	30.4	19701	
0.66	7.56	8.22	....	1.03	9.33	....	....	....	19083	
0.20	8.22	8.42	8.20	....	7.23	6.66	....	....	19029	
0.14	8.54	8.68	8.23	1.11	7.42	5.00	....	....	18543	
0.14	8.69	8.83	8.23	0.95	7.89	5.00	....	....	18596	
0.26	8.49	8.75	8.23	1.83	8.14	5.00	....	....	18728	
0.21	8.40	8.64	8.23	1.65	8.06	5.00	51.50	23.9	18845	
0.18	8.49	8.67	8.23	1.78	7.70	5.00	51.50	24.2	18846	
0.24	8.32	8.56	8.23	1.91	7.85	5.00	51.50	24.2	18847	
0.14	8.40	8.54	8.23	1.45	7.65	5.00	51.50	24.3	19224	
0.16	8.57	8.73	8.23	1.57	7.58	5.00	....	....	18714	
0.30	7.90	8.20	8.23	4.45	13.80	12.00	55.00	24.4	18930	
0.10	8.38	8.48	....	0.20	4.19	....	....	....	17961	

† Allowing 8 cents per pound for available phosphoric acid.

TABLE X. ANALYSES OF

Station No.	Manufacturer.	Dealer or Purchaser.
	<i>Sampled by Station Agent:</i>	
18911	Apothecaries Hall Co., Waterbury.	E. W. Smith, Mt. Carmel .....
19515	Armour Fertilizer Works, New York .....	J. H. McAllister, Middletown Grain Assoc., Cromwell .....
19659	Armour Fertilizer Works, New York .....	J. H. McAllister, Middletown Grain Assoc., Cromwell .....
18804	Conn. Fat Rendering & Fertilizing Corp., West Haven, Conn. ....	Sampled at factory .....
19244	Consolidated Rendering Co., Boston	M. E. Cooke, Wallingford .....
18798	Consolidated Rendering Co., Boston	L. T. Frisbie Co., New Haven .....
19412	Eastern States Farmers' Exchange, Springfield, Mass. ....	H. H. McKnight, Ellington .....
19505	Wilcox Fertilizer Co., Mystic .....	Sampled at factory .....
19523	Worcester Rendering Co., Auburn, Mass. ....	Meech & Stoddard, Middletown .....
	<i>Sampled by Purchaser:</i>	
18769	Consolidated Rendering Co., Boston	Chas. A. Lyman, Middlefield .....
18180	Middlesex Fertilizer Corp., Middletown .....	H. B. Cornwall, Meriden .....
19539	Sanderson Fertilizer Co., New Haven .....	H. F. Johnson, Norwich .....
19344	Worcester Rendering Co., Auburn, Mass. ....	E. C. Rogers, Putnam .....

## SLAUGHTER HOUSE TANKAGE.

As ammonia.	Nitrogen.			Phosphoric Acid.		Mechanical Analysis.		Cost per ton	Station No.
	As organic.	Total found.	Total guaranteed.	Found.	Guaranteed.	Finer than 1.50 inch.	Coarser than 1.50 inch.		
0.16	7.53	7.69	7.41	8.33	7.00	62	38	\$50.00	18911
0.15	4.59	4.74	4.93	14.00	13.73	68	32	41.50	19515
0.05	7.24	7.29	7.40	8.65	6.87	34	66	41.50	19659
0.06	3.94	4.00	3.25	21.26	20.00	53	47	35.00	18804
0.21	5.10	5.31	4.92	16.40	14.00	46	54	40.00	19244
0.18	7.04	7.22	7.41	12.10	10.00	36	64	....	18798
0.28	5.91	6.19	5.75	9.98	6.85	28	72	....	19412
0.12	8.12	8.24	6.50	5.85	(*)	56	44	....	19505
0.19	7.93	8.12	5.74	10.88	25.00	43	57	62.00	19523
0.20	5.48	5.68	4.92	12.91	14.00	26	74	....	18769
0.14	6.04	6.18	....	11.12	....	36	64	....	18180
0.27	8.09	8.36	4.94	11.08	13.70	31	69	....	19539
0.17	7.69	7.86	5.74	11.70	25.00	32	68	35.00	19344

\* Guaranteed 4% available.

#### SLAUGHTER HOUSE TANKAGE.

Of the 13 samples analyzed three did not meet their guaranty. Two, **19515** and **19659**, were from the Armour Fertilizer Works, New York, and one, **18798**, from the Consolidated Rendering Co., Boston.

As will be seen from Table X, tankage, as well as bone, ranges widely in composition, depending on the relative amount of bone, meat, etc., which goes into it.

Here the nitrogen in these samples ranges from 8.36 to 4.00 and the phosphoric acid from 21.26 to 5.85. The agricultural value of tankage depends on its fineness as well as on its composition.

When only a quarter or a third of the weight of the tankage is finer than one fiftieth inch it will not be nearly as quick in its action in the soil as tankage, two-thirds of which is finer than one-fiftieth inch.

## BONE MANURES.

In Table XI are analyses of 33 brands. The nitrogen in the various samples ranges from 5.13 to 1.68; phosphoric acid from 30.47 to 18.80.

Seventy-eight per cent of fine material is found in one sample, in another only 37 per cent.

Sample **18605** is a factory waste not on the market.

Thirteen samples have a guaranty of 2.47 per cent nitrogen, but the percentage in them range from 3.76 to 1.68.

Ten others have a guaranty of 3.29 per cent, but the samples range from 4.73 to 3.31 per cent. An average of such figures is of very limited value. The average figures of the 23 samples drawn by the Station are:

Nitrogen .....	3.13	per cent
Phosphoric acid .....	24.64	per cent
Cost per ton .....	\$47.90	

The following samples failed to meet their guaranty:

In respect of nitrogen:

<b>19618</b>	Consolidated Rendering Co. ....	0.78%
<b>19619</b>	Wilcox Fertilizer Co. ....	.17

In respect of phosphoric acid:

<b>19603</b>	Berkshire Fertilizer Co. ....	1.20
<b>19598</b>	Rogers & Hubbard Co. ....	0.50

TABLE XI. ANALYSES OF

Station No.	Manufacturer.	Dealer or Purchaser.
19596	<i>Sampled by Station:</i> American Agricultural Chemical Co., New York .....	W. C. Mansfield, North Haven... Cheshire Reformatory, Cheshire.
19601	Apothecaries Hall Co., Waterbury .....	C. F. Curtiss, Milldale .....
19600	Apothecaries Hall Co., Waterbury .....	J. H. McAllister, Middletown
19621	Armour Fertilizer Works, New York.....	Grain Assoc., Cromwell .....
19603	Berkshire Fertilizer Co., Bridgeport .....	Sampled at factory .....
19613	Consolidated Rendering Co., Boston .....	August Grulich Estate, Meriden..
19618	Consolidated Rendering Co., Boston .....	Rockville Milling Co., Rockville..
19615	Eastern States Farmers' Exchange, Springfield, Mass. ....	C. K. Andrews, West Woods Farmers' Assoc., Mt. Carmel...
19595	L. T. Frisbie Co., New Haven .....	Lightbourn & Pond, New Haven.
19007	L. T. Frisbie Co., New Haven .....	Sampled at factory .....
19606	International Agricultural Corp., Boston.	Wm. Myers, Tariffville .....
19622	Levering Fertilizer Co., Baltimore, Md...	F. O. Brown, Colchester .....
19599	Mapes Fertilizer & Peruvian Guano Co., New York City .....	J. F. Ravens Hardware Co., Meri-
19597	Olds & Whipple, Inc., Hartford .....	den .....
19598	The Rogers & Hubbard Co., Portland....	Sampled at factory .....
19604	The Rogers & Hubbard Co., Portland....	Cadwell & Jones, Hartford .....
19602	F. S. Royster Guano Co., Baltimore, Md..	R. H. Hall Estate, East Hampton
19614	Sanderson Fertilizer & Chemical Co., New Haven .....	Plumb Bros., Waterbury .....
19354	M. L. Shoemaker & Co., Philadelphia, Pa.	Fred C. Morse Guilford .....
19616	Virginia-Carolina Chem. Co., New York.	G. T. Soule, New Milford .....
19689	What Cheer Chemical Co., Pawtucket, R. I.	Silliman Hardware Co., New Can-
19619	Wilcox Fertilizer Co., Mystic .....	aan .....
19617	Worcester Rendering Co., Auburn, Mass.	Lyon & Ewald, New London .....
	<i>Sampled by Purchaser:</i>	M. E. Thompson, Ellington .....
18748	Apothecaries Hall Co., Waterbury .....	J. O. Fox & Co., Putnam .....
18749	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford...
18853	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford...
18854	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford...
19220	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford...
19232	Apothecaries Hall Co., Waterbury .....	Hatheway & Steane, Hartford...
19423	Berkshire Fertilizer Co., Bridgeport .....	J. E. Shepard, South Windsor....
19326	Berkshire Fertilizer Co., Bridgeport .....	J. E. Shepard, South Windsor....
18931	The Rogers & Hubbard Co., Portland....	Edward O. Douglass, Suffield ...
18605	Winchester Repeating Arms Co., New Haven .....	Joseph A. Smith, New Haven ...

## BONE MANURES.

Nitrogen.		Phosphoric Acid.		Mechanical Analysis.		Cost per ton.	Station No.
Found.	Guaranteed.	Found.	Guaranteed.	Finer than 1-50 inch.	Coarser than 1-50 inch.		
2.84	2.47	24.05	22.88	58	42	\$45.00	19596
2.65	2.26	25.80	22.88	78	22	47.00	19601
3.46	3.29	20.00	20.00	52	48	....	19600
2.84	2.47	25.55	22.00	70	30	38.50	19621
4.34	3.29	18.80	20.00	54	46	....	19603
2.28	2.05	27.50	26.00	63	37	56.00	19613
1.68	2.46	29.65	24.00	68	32	52.00	19618
2.56	2.46	23.75	23.00	61	39	40.70	19615
2.60	2.46	26.70	24.00	57	43	50.00	19595
4.10	3.28	22.63	22.00	37	63	....	19007
2.54	2.50	26.05	22.00	62	38	44.00	19606
2.44	2.47	27.35	22.90	56	44	45.00	19622
4.00	3.71	24.60	20.00	55	45	55.00	19599
2.81	2.47	23.60	22.00	60	40	....	19597
3.89	3.82	24.20	24.70	69	31	60.00	19598
3.31	3.29	23.30	20.50	71	29	55.00	19604
3.14	2.47	25.65	22.90	50	50	52.50	19602
3.38	2.47	23.40	22.88	71	29	40.00	19614
5.13	4.53	23.55	20.00	56	44	55.00	19354
3.76	2.47	22.25	22.00	50	50	42.50	19616
3.65	1.80	24.30	20.00	50	50	50.00	19689
1.88	2.05	28.40	25.17	65	35	40.00	19619
2.65	2.46	25.05	25.00	65	35	42.00	19617
3.77	3.29	24.50	20.00	49	51	38.25	18748
3.75	3.29	22.08	20.00	46	54	38.25	18749
3.74	3.29	24.46	20.00	54	46	38.25	18853
3.77	3.29	24.36	20.00	52	48	38.25	18854
4.73	3.29	20.15	20.00	48	52	38.25	19220
3.36	3.29	25.18	20.00	54	46	38.25	19232
2.96	2.50	26.05	25.00	54	46	....	19423
1.83	3.29	30.47	20.00	76	24	36.00	19326
4.97	4.11	20.12	23.00	74	26	36.00	18931
4.00	...	25.59	....	29	71	....	18605

## MIXED BONE AND MEAT TANKAGE.

**19176.** Made by Apothecaries Hall Co., Waterbury. Sampled at factory.

**18791.** Sent by Frank Hofmann, Cromwell. Very coarse material.

## ANALYSES OF MIXED BONE AND TANKAGE.

Station No.	19176	18791
Nitrogen:		
In ammonia	0.06	0.31
Total found	4.12	7.47
Total guaranteed	3.29	....
Phosphoric acid:		
Found	22.10	11.64
Guaranteed	20.00	....

## GARBAGE TANKAGE.

**18999.** Sent by Frank Strasburger, Stratford. From the Bridgeport garbage reduction plant.

**19137.** Sent by S. D. Woodruff & Sons, Orange.

## ANALYSES OF GARBAGE TANKAGE.

Station No.	18999	19137
Nitrogen:		
In ammonia	2.43	0.06
Total	2.43	2.92
Phosphoric acid:		
Total	3.58	4.38

A REVIEW OF THE ANALYSES OF RAW MATERIALS used as fertilizers indicates the following facts:

The average cost of plant food in raw materials has been lower this year than last, with the exception of nitrogen in cotton seed meal.

The average figures calculated from the analyses made here are:

	Cents per pound.
Cost of nitrogen in sulphate of ammonia .....	15.6
Cost of nitrogen in nitrate of soda .....	19.7
Cost of nitrogen in cotton seed meal 36% protein .....	44.6†
Cost of nitrogen in cotton seed meal 41% protein .....	37.3†
Cost of nitrogen in cotton seed meal 43% protein .....	37.3†
Cost of nitrogen in castor pomace .....	29.9
Cost of nitrogen in fish* .....	24.8
Insoluble phosphoric acid in phosphate rock .....	3.2
Available phosphoric acid in precipitated bone .....	8.5
Available phosphoric acid in acid phosphate .....	6.5-6.9
Potash in form of H. G. Sulphate .....	5.7
Potash in form of muriate .....	5.1
Potash in form of crude salts .....	5.1

\* Mostly in car lots. If allowance is made for the phosphoric acid and potash the price will be reduced by four or five cents.

\* Allowing 8c. per lb. for available phosphoric acid.

These figures show that sulphate of ammonia and nitrate of soda have been the cheapest forms of available nitrogen; that cotton seed with 41 per cent protein has been a much cheaper source of nitrogen than the 36 per cent meal.

The reason is plain. A thirty-ton car lot of 36 per cent meal carries the same freight charge as a car of 41 per cent meal, but carries 500 pounds less of *nitrogen*.

The market for fertilizer chemicals has been very fluctuating during the fertilizer season, and extravagantly high and unusually low prices have been paid in individual instances, but the average prices of fertilizer chemicals have been considerably lower than in 1921.

A following table gives complete average analyses of the commonly used raw fertilizer materials which have been referred to on previous pages. Our routine analyses usually show only the three most important elements, nitrogen, phosphoric acid and potash, but we are frequently asked what makes up the rest of the material. For example, cotton seed meal contains 6.8 per cent of nitrogen, and usually that is all that the sender desires to know. But a complete analysis shows that it contains, as an average:

	Per cent.
Water and very small amounts of undetermined matter	10.5
Vegetable matter, exclusive of nitrogen .....	76.9
Nitrogen .....	6.8
Phosphoric acid .....	2.9
Potash .....	1.9
Lime .....	0.3
Magnesia .....	0.7
<hr/>	
	100.0

TABLE XII. AVERAGE COMPOSITION OF VARIOUS FERTILIZER MATERIALS.

Materials	Water and Undetermined	Organic Matter.	Nitrogen.	Phosphate Acid.	Lime.	Magnesia.	Oxide Iron.	Sulphuric Acid.	Soda.	Chlorine.	Sand.
Nitrate of Soda .....	50.0a	....	15.4	...	43.4	...	...	...	34.1	0.5	...
Nitrate of Potash .....	44.1b	....	12.5	...	...	...	...	...	...	...	...
Sulphate of Ammonia .....	24.1c	....	20.5	...	...	63.2	...	55.4	...	...	...
Calcium Cyanamide .....	16.9	....	16.8	...	...	0.3	0.7	2.1	...	...	1.0
Cottonseed Meal .....	10.5	83.7*	6.8	2.9	1.9	0.3	0.8	...	...	...	...
Castor Pomace .....	11.6	82.9*	5.4	2.2	1.5	0.9	0.4	...	...	0.1	...
Dry Fish Scrap .....	1.9	73.7*	8.7	7.6	1.1	8.7	0.4	...	5.2	...	0.1
Acid Phosphate .....	....	....	....	17.2	...	...	...	...	...	...	1.3
Precipitated Bone .....	24.4†	....	....	40.15	...	33.24	0.32	...	1.19	...	...
German H. G. Sulf. Pot.	2.4	....	....	....	49.9	0.2	1.3	...	43.6	0.7	0.3
French H. G. Sulf. Pot.	8.7	....	....	....	49.9	...	...	...	39.0	...	2.4
Double Sulf. Pot. and Mag.	8.5	....	....	....	27.4	...	11.3	...	46.7	1.3	0.6
Double Carb. Pot. and Mag.	57.5d	....	....	....	18.1	1.2	19.3	2.2	...	1.5	0.2
Carbonate of Potash .....	39.0e	....	....	....	61.0	...	...	...	...	...	...
Kainit# .....	9.4	....	....	....	12.8	0.8	7.4	...	20.4	18.3	0.8
Manure Salts# .....	23.2f	....	....	....	20.3	3.2	0.5	...	1.9	...	2.1
Vegetable Ash .....	31.3	....	....	....	0.6	25.1	21.7	10.1	...	5.3	...
Cotton Hull Ash .....	32.5g	....	....	....	9.8	27.9	5.2	11.2	...	2.4	1.3
Wood Ashes .....	29.1h	....	....	....	2.1	6.6	36.6	5.7	2.4	1.2	0.5
N. Y. Horse Manure .....	66.0	31.9*	0.7	0.4	0.6	0.5	0.2	0.2	0.1	...	...
Cow Manure .....	71.8	18.2*	0.4	0.3	0.5	0.2	0.1	0.8	0.1	0.1	7.9
Sheep Manure .....	71.2	71.3*	2.1	1.8	2.4	...	...	...	...	...	...
Tobacco Stems .....	20.8	63.9*	2.1	0.6	7.5	3.8	0.5	0.1	0.5	0.2	0.5

# NOT USED FOR TOBACCO. (a) Of this 44 per cent is oxygen. (b) of this 32.6 per cent is carbonic acid, (c) mostly carbonic acid, (d) mostly water and carbonic acid, (e) mostly soda, (g) mostly organic acid. \* The nitrogen given in next column is included here, it being principally in organic form. † Free and combined. ‡ A partial analysis.

## V. MIXED FERTILIZERS.

MIXED FERTILIZER CONTAINING PHOSPHORIC ACID  
AND POTASH.

**19526.** Olds & Whipple's Potash Compound. Sampled by Station agent at the factory.

## ANALYSIS.

Available phosphoric acid .....	5.40
Insoluble phosphoric acid .....	0.18
Total phosphoric acid .....	5.58
Potash calculated as muriate .....	3.81
Potash calculated as sulphate .....	11.58
Total potash .....	15.39
Chlorine .....	2.87
Cost per ton .....	\$43.88

## NITROGENOUS SUPERPHOSPHATES WITHOUT POTASH.

In Table XIII are given the analyses of 12 samples which contain no potash.

Sample **19377** shows 1.72 per cent of nitrogen as ammonia. We are advised by the manufacturer that ammonia salts are not used in this brand. While the analysis corresponds well with the guaranty, it appears likely that there has been a mistake in the brand name. It has not been possible to get another sample.

Two brands failed to meet their guaranty: Royster's Landmark, **19433**, and Sanderson's Tobacco Grower, **19437**.

TABLE XIII. NITROGENOUS SUPERPHOSPHATES.

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	Nitrogen.	
				In nitrates.	In ammonia.
	<i>Sampled by Station:</i> <b>American Agricultural Chemical Co., New York City.</b>				
19504	National 5-4 Tobacco Manure ....	Somers .....	\$54.00	0.10	0.94
	<b>Berkshire Fertilizer Co., Bridgeport.</b>				
19335	Tobacco Starter .....	New Milford .....	52.40	1.71	1.21
	<b>F. T. Blish Hardware Co., South Manchester.</b>				
19522	Top Dressing for Grass.....	South Manchester	44.00	2.44	0.08
	<b>Bowker Fertilizer Co., New York City.</b>				
19377	Tobacco Grower .....	Avon .....	50.75	0.10	1.72
	<b>Olds &amp; Whipple, Inc., Hartford.</b>				
19092	High Grade Tobacco Starter ....	Silver Lane .....	62.00	3.25	0.23
19493	Top Dressing for Grass .....	Factory .....	44.00	2.31	0.13
	<b>F. S. Royster Guano Co., Baltimore, Md.</b>				
19433	Landmark .....	Waterbury .....	52.00	0.16	1.96
19122	Prime Fish Brand .....	Ansonia .....	37.00	0.08	1.00
	<b>Sanderson Fertilizer &amp; Chemical Co., New Haven.</b>				
19499	High Grade Ammoniated Phosphate .....	Factory .....	....	0.98	0.30
19508	Phosphate without Potash .....	Seymour .....	45.00	0.69	0.03
19437	Tobacco Grower .....	New Milford .....	....	0.16	0.08
	<b>M. L. Shoemaker &amp; Co., Philadelphia, Pa.</b>				
18960	Swift-Sure Superphosphate Tobacco Starter .....	Hartford .....	45.00	0.90	0.08

## WITHOUT POTASH.

Organic water-soluble.	Nitrogen.				Phosphoric Acid.				Station No.	
	Organic water-insoluble.	Total.		Citrate-insoluble.	Total.		So-called "Available."			
		Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		
0.36	2.82	4.22	4.11	0.23	5.08	5.00	4.85	4.00	19504	
0.05	1.95	4.92	5.00	0.13	5.18	5.00	5.05	4.00	19335	
0.71	2.59	5.82	5.76	0.90	6.45	4.00	5.55	4.00	19522	
0.38	3.00	5.20	4.11	0.28	4.98	5.00	4.70	4.00	19377	
0.27 0.19	4.61 3.19	8.36 5.82	8.23 5.76	0.58 0.60	4.75 6.25	3.00 4.00	4.17 5.65	3.00 4.00	19092 19493	
0.16 0.08	1.09 0.53	3.37 1.69	3.29 1.65	0.80 1.15	10.50 10.75	10.50 8.50	9.70 9.60	10.00 8.00	19433 19122	
0.76 0.03 0.42	1.18 0.95 2.83	3.22 1.70 3.49	3.29 1.65 4.11	1.20 0.70 0.28	11.70 11.48 4.60	11.00 11.00 5.00	10.50 10.78 4.32	10.00 10.00 4.00	19499 19508 19437	
0.5	1.84	3.32	3.30	3.28	13.63	12.00	10.35	10.00	18960	

**NITROGENOUS SUPERPHOSPHATES CONTAINING  
POTASH.**

In Table XIV are analyses of 279 samples drawn by the Station agent and 4 samples drawn by other individuals.

**GUARANTIES.**

Of the samples examined 97, or about 34 per cent, did not meet their guaranties in all respects. Forty-four were deficient in potash, 40 in nitrogen. Seventy nine were lacking in one ingredient, 16 in two, and two samples in all three ingredients.

In all but twenty cases, however, the deficiency in one ingredient was fully made up in money value by an overrun in the other two.

The following did not make up the deficiency, if nitrogen is reckoned at 40 cents, available phosphoric acid at 8 cents and potash at  $5\frac{1}{2}$  cents per pound.

Number.	Name.	Deficiency.
19291	A. A. C. Co.'s Wheeler's Potato Manure .....	\$1.20
19010	Armour's Big Crop, 3-8-4 .....	1.42
19375	Bowker's Stockbridge Top Dressing and Forcing Manure .....	3.21
19381	Chittenden's Complete Tobacco and Onion Grower, 4% Potash .....	1.59
19194	Coe-Mortimer's Red Brand Excelsior Guano .....	1.12
19488	International Agric. Corp'n Buffalo Crop Grower..	6.52
19529	Levering Fertz'r Co.'s General Fertilizer.....	3.42
19151	Levering Fertz'r Co.'s Market Garden .....	1.37
19483	Lowell Fertz'r Co.'s 5-8-7 for Potatoes and Vegetables .....	2.14
19358	Mitchell's 5-8-7 .....	6.52
19196	New England Fertz'r Co. 5-8-7 for Potatoes and Market Gardens .....	1.37
19625	Parmenter & Polsey's 5-8-7 for Potatoes and Market Gardens .....	1.61
19248	Rogers & Hubbard Co. Hubbard's Bone Base Fertilizer for Seeding Down .....	3.87
19623	Rogers & Hubbard Co. Hubbard's Bone Base Fertilizer for Seeding Down .....	2.63
19356	Royster Guano Co. Arrow Head Tobacco Formula.	1.36
19642	Royster Guano Co. Quality Trucker .....	1.65
19507	Sanderson Fertilizer & Chemical Co. Top Dressing for Grass and Grain .....	1.92
19664	What Cheer Chemical Co. Superior Brand .....	1.41
19663	Worcester Rendering Co. Prosperity Brand Complete Dressing .....	2.34

## COMPOSITION.

Of the 283 samples analyzed:

17	have a guaranty of 0.82 per cent nitrogen
54	have a guaranty of 1.65 per cent nitrogen
54	have a guaranty of 2.47 per cent nitrogen
73	have a guaranty of 3.29 per cent nitrogen
65	have a guaranty of 4.11 per cent nitrogen
11	have a guaranty of 4.94 per cent nitrogen
9	not included above

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283

There has been an increase in the percentage of high nitrogen brands this year, as the following statement shows:

	1921.	1922.
Guaranty of .82 nitrogen .....	10.0	6.0
Guaranty of 1.65 nitrogen .....	20.4	19.1
Guaranty of 2.47 nitrogen .....	23.2	19.1
Guaranty of 3.29 nitrogen .....	20.4	25.9
Guaranty of 4.11 nitrogen .....	21.4	23.0
Guaranty of 4.94 nitrogen .....	4.6	6.9
	<hr/>	<hr/>
	100.0	100.0

As will be noted in the following paragraphs, nitrogen, the most expensive element in fertilizers, costs very much more in the lower than in the higher nitrogen brands.

## COST OF NITROGEN.

As nitrogen costs four or five times as much per pound as either phosphoric acid or potash, its cost in the different grades of mixed goods is of special importance.

In the following statement are given the guaranteed composition of the brands sold in the state, their number, average cost per ton as quoted by the dealers and the average cost of nitrogen per pound in the different brands. Available phosphoric acid is valued at 8 cents per pound and potash at  $5\frac{1}{2}$  cents. The sum of these values is subtracted from the cost price. This remainder, divided by the number of pounds of nitrogen, gives the cost per pound of nitrogen.

For example, the formula .82-8-2 carries in one ton 16.4 pounds of nitrogen, 160 of available phosphoric acid and 40 of potash. The calculation is:

160 lbs. phosphoric acid at 8c. ....	\$12.80
40 lb. potash at $5\frac{1}{2}$ c. ....	2.20
Valuation of both ..... .....	<hr/> \$15.00

The average cost of this fertilizer per ton is \$36.19.

$36.19 - 15.00 = \$21.19$ , which is what the 16.4 lbs of nitrogen cost.

$\frac{21.19}{16.4} = \$1.29$ , which is the cost of a pound of nitrogen in this class of goods.

Formulas.	No. of brands.	Average cost per ton.	Nitrogen cost per lb.	Average <sup>1</sup>
.82-8-2	9	\$36.19	\$1.29	\$1.29
1.65-8-2	22	40.10	.76	.81
1.65-8-3	16	44.88	.87	
2.47-8-3	7	44.87	.58	
2.47-8-4	19	44.86	.49	.52
3.29-8-4	29	44.65	.35	
3.29-8-6	11	44.45	.53	.41
3.29-8-7	9	48.87	.43	
4.11-8-7	12	51.35	.37	
4.11-8-6	3	50.50	.38	
4.11-4-3	6	54.66	.55	.46
4.11-4-5	15	54.29	.52	

To the last column of this statement special attention is invited. In the lowest grade—and lowest priced—goods the nitrogen costs two to three times as much per pound as in higher grade—and higher priced—brands.

Manufacturers are endeavoring to drop the sale of the lowest grades, and buyers waste their money when they buy them.

#### ANALYSES REQUIRING SPECIAL NOTICE.

Bradley's Complete Potato and Vegetable, **19073**, was below guaranty in nitrogen. A second sample, **19646**, met the nitrogen guaranty but was below in potash.

Packer's Union Potato Manure was below guarantee in potash. A second sample, **19688**, met its guaranty.

National XXX Fish and Potash, **18918**, was below its available phosphoric acid guaranty, but a second sample, **19184**, fully met the guaranty.

Apothecaries Hall Co.'s Liberty Top Dressing, **18910**, was slightly below guaranty of nitrogen. A second sample, **19054**, fully met the guaranty.

Armour's Big Crop, 4-8-7, **18903**, was below guaranty in potash. A second sample, **19183**, fully met this guaranty.

**19358**, Mitchell's 5-8-7. Below guaranty in all particulars.

Mr. Mitchell states that only a little more than one carload was sold in the state. The parties who made this brand for him have given him a rebate as agreed in their contract, which has been paid to buyers.

Royster's Quality Trucker, **19124**, was below guaranty in potash. A second sample, **19642**, showed similar deficiency.

## AVAILABILITY OF THE ORGANIC NITROGEN.

Nine samples showed that less than 50 per cent of their insoluble organic nitrogen was soluble by the alkaline permanganate test and less than 80 per cent by the neutral permanganate test.

These two tests confirm the presence of inferior forms of nitrogen. In one case the percentage of insolubility is so near the limits named that the difference may be disregarded.

In six cases the excess of total nitrogen over guaranty is enough to compensate for the inactive nitrogen.

Mapes Corn Manure, 19157, and Virginia-Carolina Champion Brand, 18920, were somewhat below guaranty in nitrogen, and in these two brands there was no such compensation as in the other six cases.

## POTASH DETERMINATIONS.

In a considerable number of cases the manufacturer repeated this Station's determination of potash, on the samples which the Station had analyzed and had forwarded to them. They were the following:

From the American Agricultural Chemical Co.:

No.		Per cent of potash found by Station.	Manufacturers.
19071	Packer's Union .....	2.84	2.98
19180	Quinnipiac .....	6.84	6.98
19308	Bradley .....	1.85	2.02
19291	Wheeler .....	2.71	2.60
19245	National .....	3.75	3.84
19307	Williams & Clark .....	3.58	3.76
19295	Williams & Clark .....	6.64	6.76
19093	Williams & Clark .....	2.85	2.97
19165	Bowker .....	9.64	9.78
19111	Stockbridge .....	3.76	3.77
19375	Stockbridge .....	3.67	3.54
19158	Coe-Mortimer .....	3.76	4.00
19194	Coe-Mortimer .....	6.78	7.00
19127	Sanderson .....	3.73	3.92
	Average .....	4.46	4.57
	From the Consolidated Rendering Co.:		
19187	Lowell .....	3.88	3.08
19195	New England .....	5.87	5.80
19198	Essex .....	3.86	4.81
	Average .....	4.54	4.63

While most of the differences are inconsiderable, it is sufficient to bring the percentage of potash in some of them in agreement with the guarantee if the higher figure is taken, while the lower figure does not meet the guarantee.

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
	<i>Sampled by Station:</i>		
	<b>American Agricultural Chemical Co., New York.</b>		
19068	Double A Tobacco Fertilizer .....	4.1-4-5	Manchester .....
18907	Fish and Potash .....	2.5-10-3	North Haven .....
19113	Grass and Lawn Top Dressing.....	4.9-6-4	Manchester .....
18908	Monarch Potato Manure .....	3.3-8-4	North Haven .....
18906	7% Potash Fertilizer .....	3.3-8-7	New Haven .....
19290	7% Potash Fertilizer .....	3.3-8-7	Riverton .....
19072	Universal Phosphate .....	0.8-8-2	New London .....
19418	Bradley's Complete Manure for Top Dressing Grass and Grain.....	4.9-6-4	Stafford Springs...
19073*	Bradley's Complete Manure for Top potatoes and Vegetables .....	3.3-8-7	Groton .....
19646*	Bradley's Complete Manure for Po- tatoes and Vegetables .....	3.3-8-7	Granby .....
19304	Bradley's Complete Tobacco Ma- nure .....	4.1-4-5	Glastonbury .....
18925	Bradley's Corn Phosphate .....	1.7-8-2	Bristol .....
19013	Bradley's New Method Fertilizer..	0.8-8-2	Norwalk .....
19070	Bradley's Potato Fertilizer .....	1.7-8-3	East River .....
18958	Bradley's Potato Manure .....	2.5-8-4	Bristol .....
19309	Bradley's Valley Tobacco Fertilizer	4.1-4-3	Simsbury .....
18927	Bradley's XL Superphosphate of Lime .....	2.5-9-2	Bristol .....
19308†	Bradley's XL Superphosphate of Lime .....	2.5-9-2	Unionville .....
19630	Great Eastern General .....	0.8-8-2	Thomaston .....
19667	Great Eastern Northern Corn Special .....	1.7-8-2	Woodbury .....
19651	Lister's Celebrated Tobacco Ferti- lizer .....	4.1-4-3	West Suffield .....
19303	Lister's Complete Tobacco Manure	4.1-4-5	Warehouse Point ..
19089	Lister's Corn and Potato Fertilizer	1.7-8-3	Yalesville .....
19286	Lister's Eastern Pride Fertilizer....	2.5-8-4	Yalesville .....
19110	Lister's Standard Pure Superphos- phate of Lime .....	2.5-9-2	Yalesville .....
19088	Lister's Success Fertilizer .....	1.7-8-2	Yalesville .....
19382	Packer's Union Animal Corn Ferti- lizer .....	2.5-9-2	North Haven .....
19071*	Packer's Union Potato Manure ....	1.7-8-3	Waterford .....
19668*	Packer's Union Potato Manure ....	1.7-8-3	Portland .....
19471	Packers' Union Universal Fertilizer	0.8-8-2	Riverton .....
18909	Quinnipiac Climax Phosphate .....	0.8-8-2	North Haven .....
19090	Quinnipiac Corn Manure .....	1.7-8-2	Manchester .....
19180	Quinnipiac Market Garden Manure	3.3-8-7	Manchester .....
19085	Quinnipiac Potato Manure .....	2.5-8-4	North Haven .....
19106	Quinnipiac Potato Phosphate .....	1.7-8-3	North Haven .....

\* See note, page 110.

† See note, page 111.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.				Station No.	
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	Guaranteed.	So-called "Available."	As muriate.	Total.	Found.	Guaranteed.	
0.97	none	0.07	3.16	4.20	4.11	0.28	4.77	5.00	4.49	4.00	0.25	5.01	5.00	19068
trace	0.79	0.49	0.99	2.27	2.47	1.20	12.03	11.00	10.83	10.00	3.01	3.01	3.00	18907
1.94	1.26	0.82	0.92	4.94	4.94	1.06	7.13	7.00	6.07	6.00	4.17	4.17	4.00	19113
0.80	1.50	0.09	0.88	3.27	3.29	0.85	9.08	9.00	8.23	8.00	3.88	3.88	4.00	18908
0.58	1.62	0.22	0.81	3.23	3.29	0.58	8.61	9.00	8.03	8.00	7.04	7.04	7.00	18906
0.65	1.46	0.41	0.72	3.24	3.29	0.78	8.71	9.00	7.93	8.00	7.06	7.06	7.00	19290
0.31	0.06	0.41	0.19	0.97	0.82	1.20	9.40	9.00	8.20	8.00	1.98	1.98	2.00	19072
2.90	1.24	0.27	0.53	4.94	4.94	0.80	7.68	7.00	6.88	6.00	3.87	3.87	4.00	19418
0.94	0.92	0.42	0.88	3.16	3.29	0.83	9.03	9.00	8.20	8.00	6.96	6.96	7.00	19073
0.43	1.91	0.26	0.67	3.27	3.29	0.49	8.62	9.00	8.13	8.00	6.69	6.69	7.00	19646
0.94	0.08	0.35	3.11	4.48	4.11	0.30	4.85	5.00	4.55	4.00	0.32	5.19	5.00	19304
0.08	0.83	0.20	0.61	1.72	1.65	0.70	8.95	9.00	8.25	8.00	2.01	2.01	2.00	18925
0.02	0.26	0.28	0.49	1.05	0.82	0.68	9.23	9.00	8.55	8.00	2.32	2.32	2.00	19013
0.40	0.44	0.10	0.97	1.91	1.65	1.23	9.73	9.00	8.50	8.00	3.00	3.00	3.00	19070
0.45	1.27	0.03	0.94	2.69	2.47	0.88	9.28	9.00	8.40	8.00	3.94	3.94	4.00	18958
1.06	0.04	0.42	2.94	4.46	4.11	0.40	5.00	5.00	4.60	4.00	0.32	3.41	3.00	19309
0.40	1.23	0.21	0.88	2.72	2.47	1.98	10.73	10.00	8.75	9.00	2.42	2.42	2.00	18927
0.37	0.81	0.37	1.01	2.56	2.47	0.85	10.10	10.00	9.25	9.00	1.85	1.85	2.00	19308
0.06	0.21	0.22	0.50	0.99	0.82	0.68	9.00	9.00	8.32	8.00	2.12	2.12	2.00	19630
0.11	0.43	0.28	0.83	1.65	1.65	0.65	9.00	9.00	8.35	8.00	2.18	2.18	2.00	19667
0.04	0.73	0.40	2.73	3.90	4.11	0.15	4.75	5.00	4.60	4.00	0.11	3.34	3.00	19651
0.05	1.00	0.27	2.97	4.29	4.11	0.33	4.93	5.00	4.60	4.00	0.36	5.17	5.00	19303
0.44	0.45	0.12	0.93	1.94	1.65	1.25	9.60	9.00	8.35	8.00	3.46	3.46	3.00	19089
0.47	0.76	0.29	0.95	2.47	2.47	0.68	9.05	9.00	8.37	8.00	3.90	3.90	4.00	19286
0.36	0.64	0.36	0.94	2.30	2.47	0.84	10.82	10.00	9.98	9.00	2.32	2.32	2.00	19110
0.10	0.46	0.41	0.84	1.81	1.65	0.65	9.19	9.00	8.54	8.00	2.27	2.27	2.00	19088
0.32	0.50	0.28	1.20	2.30	2.47	0.75	10.90	10.00	10.15	9.00	2.06	2.06	2.00	19382
0.53	0.74	0.17	0.38	1.82	1.65	0.55	8.88	9.00	8.33	8.00	2.84	2.84	3.00	19071
0.39	0.48	0.02	0.88	1.77	1.65	1.20	9.43	9.00	8.23	8.00	3.08	3.08	3.00	19668
0.01	0.15	0.21	0.49	0.86	0.82	0.78	8.89	9.00	8.11	8.00	1.82	1.82	2.00	19471
0.04	0.11	0.29	0.47	0.91	0.82	0.63	9.20	9.00	8.57	8.00	2.06	2.06	2.00	18909
0.08	0.43	0.34	0.85	1.70	1.65	0.70	9.10	9.00	8.40	8.00	2.06	2.06	2.00	19090
0.58	1.78	0.21	0.80	3.37	3.29	0.65	9.02	9.00	8.37	8.00	6.84	6.84	7.00	19180
0.68	1.64	0.02	0.86	3.20	2.47	0.75	9.03	9.00	8.28	8.00	4.47	4.47	4.00	19085
0.52	1.26	none	0.87	2.65	1.65	0.85	9.18	9.00	8.33	8.00	3.90	3.90	3.00	19106

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton. For nitrogen.
<i>Sampled by Station:</i>			
	<b>American Agricultural Chemical Co., New York (Continued).</b>		
19376	Wheeler's Corn Fertilizer .....	1.7-8-2	Riverton .....
19291*	Wheeler's Potato Manure .....	1.7-8-3	Riverton .....
19296	Williams & Clark's Americus Ammoniated Bone Superphosphate..	2.5-9-2	Clark's Corner ....
19691	Williams & Clark's Americus Ammoniated Bone Superphosphate..	2.5-9-2	South Manchester.
19094	Williams & Clark's Corn Phosphate	1.7-8-2	New London .....
19295*	Williams & Clark's Americus High Grade Special for Potatoes and Vegetables .....	3.3-8-7	Clark's Corner ....
19093*	Williams & Clark's Americus Potato Manure .....	1.7-8-3	New London .....
19307*	Williams & Clark's Potato Phosphate .....	2.5-8-4	New Britain .....
19302	Williams & Clark's Prolific Fertilizer .....	0.8-8-2	Milford .....
19690	Williams & Clark's Seed Leaf Tobacco Manure .....	4.1-4-3	Burnside .....
19056	National Complete Tobacco Fertilizer .....	4.1-4-5	Silver Lane .....
18919	National Eureka Potato Fertilizer.	3.3-8-4	West Cheshire .....
19245	National Market Garden Fertilizer.	2.5-8-4	Silver Lane .....
19055	National Potato Phosphate.....	1.7-8-3	Silver Lane .....
19660	National Special Tobacco Fertilizer	4.1-4-3	East Windsor Hill .....
19199	National Universal Phosphate ....	0.8-8-2	Wallingford .....
18918†	National XXX Fish and Potash...	2.5-10-3	West Cheshire .....
19184†	National XXX Fish and Potash...	2.5-10-3	Wallingford .....
<i>Apothecaries Hall Co., Waterbury.</i>			
19178	Liberty Corn, Fruit and All Crops..	1.6-8-2	Bristol .....
18826	Liberty Fish, Bone and Potash....	2.5-8-3	Meriden .....
18916	Liberty Fish, Bone and Potash....	2.5-8-3	Cheshire .....
18917	Liberty Market Gardeners' Special	3.3-8-4	West Cheshire .....
19338	Liberty Tobacco Special .....	4.1-4-5	Factory .....
18910†	Liberty Top Dresser for Grass and Grain .....	5.7-8-3	Mt. Carmel .....
19054†	Liberty Top Dresser for Grass and Grain .....	5.7-8-3	Bristol .....

\* See note, pages 108 and 111.

† See note, page 110.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.						Phosphoric Acid.						Potash.			Station No.
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Citrate-insoluble.	Found.	Total.	Guaranteed.	So-called "Available."	Found.	Guaranteed.	As muriate.	Total.	Found.	Guaranteed.
0.20	0.83	0.14	0.55	1.72	1.65	0.98	9.53	9.00	8.55	8.00	2.00	2.00	2.00	19376	
0.02	0.76	0.21	0.52	1.51	1.65	0.85	9.00	9.00	8.15	8.00	2.71	2.71	3.00	19291	
0.44	0.58	0.65	0.81	2.48	2.47	0.95	9.12	10.00	8.17	9.00	3.98	3.98	2.00	19296	
0.26	0.74	0.71	1.24	2.95	2.47	1.35	10.78	10.00	9.43	9.00	2.38	2.38	2.00	19691	
0.60	0.64	0.10	0.47	1.81	1.65	0.65	8.85	9.00	8.20	8.00	1.98	1.98	2.00	19094	
0.81	1.45	0.38	0.80	3.44	3.29	1.00	9.45	9.00	8.45	8.00	6.64	6.64	7.00	19295	
0.44	0.40	0.54	0.38	1.76	1.65	1.20	9.23	9.00	8.03	8.00	2.85	2.85	3.00	19093	
0.48	0.68	0.31	0.89	2.36	2.47	0.65	9.25	9.00	8.60	8.00	3.58	3.58	4.00	19307	
0.34	0.09	0.11	0.37	0.91	0.82	1.08	9.43	9.00	8.35	8.00	2.04	2.04	2.00	19302	
1.00	0.04	0.06	3.34	4.44	4.11	0.25	4.66	5.00	4.41	4.00	0.19	3.11	3.00	19690	
1.11	0.03	0.13	2.83	4.10	4.11	0.43	5.25	5.00	4.82	4.00	0.23	5.30	5.00	19056	
0.58	1.70	0.46	0.70	3.44	3.29	1.00	9.10	9.00	8.10	8.00	4.14	4.14	4.00	18919	
0.45	0.76	0.30	0.90	2.41	2.47	0.70	8.95	9.00	8.25	8.00	3.75	3.75	4.00	19245	
0.42	0.48	0.11	0.79	1.80	1.65	1.28	9.35	9.00	8.07	8.00	3.24	3.24	3.00	19055	
0.10	0.86	0.09	3.27	4.32	4.11	0.23	4.40	5.00	4.17	4.00	0.33	3.69	3.00	19660	
0.03	0.12	0.26	0.58	0.99	0.82	1.60	10.25	9.00	8.65	8.00	2.01	2.01	2.00	19199	
0.56	0.71	0.37	0.88	2.52	2.47	1.05	10.84	11.00	9.79	10.00	3.32	3.32	3.00	18918	
0.07	0.80	0.45	1.08	2.40	2.47	1.15	11.33	11.00	10.18	10.00	3.00	3.00	3.00	19184	
0.01	1.20	0.09	1.18	2.48	1.64	0.90	9.23	9.00	8.33	8.00	2.01	2.01	2.00	19178	
none	1.82	1.20	3.02	2.47	0.79	9.52	9.00	8.73	8.00	3.17	3.17	3.00	18826		
none	1.74	0.04	1.12	2.90	2.47	0.68	8.88	9.00	8.20	8.00	2.91	2.91	3.00	18916	
0.97	1.68	0.08	0.97	3.70	3.29	0.55	8.94	9.00	8.39	8.00	4.25	4.25	4.00	18917	
0.20	1.08	0.34	3.24	4.86	4.11	0.45	6.35	5.00	5.90	4.00	0.88	6.16	5.00	19338	
none	4.91	0.03	0.70	5.64	5.76	0.50	9.25	9.00	8.75	8.00	3.13	3.13	3.00	18910	
none	5.23	none	0.67	5.90	5.76	0.65	9.33	9.00	8.68	8.00	3.18	3.18	3.00	19054	

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	
<i>Sampled by Station:</i>				
Armour Fertilizer Works, New York.				
19039	Corn Grower, 2-8-2 .....	1.7-8-2	Madison .....	\$36.00
19010†	Big Crop, 3-8-4 .....	2.5-8-4	Madison .....	41.00
19182	Big Crop Fertilizer, 4-6-10.....	3.3-6-10	New London .....	48.00
19009	Big Crop Potato and Onion, 4-8-4..	3.3-8-4	Guilford .....	48.00
18903*	Big Crop Fertilizer, 4-8-7 .....	3.3-8-7	New Haven .....	52.00
19183*	Big Crop Fertilizer, 4-8-7 .....	3.3-8-7	Putnam .....	46.50
19040	Big Crop, 5-8-5 .....	4.1-8-5	Madison .....	48.00
19293	Big Crop Tobacco Special .....	4.1-4-5	Thompsonville .....	55.00
19108	General Crop, 1-7-1 .....	0.8-7-1	New Canaan .....	25.00
Atlantic Packing Co., New Haven.				
19379	3-8-3 .....	2.5-8-3	Waterbury .....	49.00
19299	5-8-7 .....	4.1-8-7	New Britain .....	52.43
19115	Grain Fertilizer, 2-8-2 .....	1.7-8-2	New Britain .....	36.35
19114	Potato Phosphate, 3-8-4 .....	2.5-8-4	New Britain .....	41.35
19288	Special Vegetable, 4-8-4 .....	3.3-8-4	New Britain .....	46.80
19456	Tobacco Manure, 5-8-6 .....	4.1-8-6	Glastonbury .....	45.00
Berkshire Fertilizer Co., Bridgeport.				
19300	Ammoniated Bone Phosphate .....	0.8-10-2	Waterbury .....	52.00
19329	Complete Fertilizer .....	2.5-8-3	Waterbury .....	63.00
19384	Complete Tobacco .....	4.1-4-4	Hazardville .....	53.50
19107	Grass Special .....	5.8-4-4	Factory .....	49.00
19201	Market Garden Fertilizer .....	3.3-8-4	Milldale .....	44.00
19474	Potato and Vegetable Phosphate...	1.7-8-2	New Milford .....	38.00
19457	Tobacco Special .....	5.8-5-5	Rockville .....	60.00
F. T. Blish Hardware Co., South Manchester.				
19350	Complete Tobacco Fertilizer .....	4.1-4-5	Factory .....	55.50
19524	Corn and Potato Phosphate .....	1.7-8-2	Factory .....	36.25
19347	Market Garden Fertilizer .....	3.3-8-4	Factory .....	42.25

\* See note, page 110.

† See note, page 108.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Nitrogen.				Phosphoric Acid.				Potash.				Station No.		
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Guaranteed.	Citrate-insoluble.	Found.	Total.	Guaranteed.	So-called "Available."	Found.	As muriate.	Total.	Guaranteed.
0.16	0.93	0.05	0.49	1.63	1.65	0.35	8.63	8.50	8.28	8.00	1.78	1.78	2.00	19039
0.04	1.69	0.06	0.53	2.32	2.47	0.28	7.98	8.50	7.70	8.00	4.24	4.24	4.00	19010
1.13	1.04	0.34	0.81	3.32	3.29	0.28	6.80	6.50	6.52	6.00	9.86	9.86	10.00	19182
0.04	2.42	0.14	0.68	3.28	3.29	0.18	8.18	8.50	8.00	8.00	3.90	3.90	4.00	19009
0.09	2.45	0.02	0.67	3.23	3.29	0.10	8.66	8.50	8.56	8.00	6.70	6.70	7.00	18903
0.05	2.10	0.42	0.67	3.24	3.29	0.33	8.60	8.50	8.27	8.00	6.98	6.98	7.00	19183
0.06	2.92	0.13	0.81	3.92	4.11	0.12	8.03	8.50	7.91	8.00	5.04	5.04	5.00	19040
0.59	0.05	0.01	3.35	4.00	4.11	0.68	4.85	4.50	4.17	4.00	0.54	5.01	5.00	19293
0.09	0.27	none	0.56	0.92	0.82	0.42	7.37	7.50	6.95	7.00	1.16	1.16	1.00	19108
0.65	0.81	0.52	0.63	2.61	2.46	0.55	9.18	9.00	8.63	8.00	3.08	3.08	3.00	19379
0.82	1.06	1.08	1.04	4.00	4.10	1.03	10.28	9.00	9.25	8.00	7.05	7.05	7.00	19299
0.51	0.09	0.62	0.54	1.76	1.64	0.78	8.90	9.00	8.12	8.00	2.22	2.22	2.00	19115
0.66	0.66	0.57	0.65	2.54	2.46	1.15	9.55	9.00	8.40	8.00	3.99	3.99	4.00	19114
1.34	0.43	0.81	0.78	3.36	3.28	1.20	9.55	9.00	8.35	8.00	4.15	4.15	4.00	19288
1.42	0.04	0.67	1.93	4.06	4.10	0.45	9.55	9.00	9.10	8.00	0.96	6.26	6.00	19456
0.52	0.04	0.20	0.24	1.00	0.80	0.30	11.68	11.00	11.38	10.00	1.99	1.99	2.00	19300
0.08	1.40	0.36	0.61	2.45	2.50	0.23	9.03	9.00	8.80	8.00	3.48	3.48	3.00	19329
1.51	0.18	0.44	2.31	4.44	4.11	0.13	5.15	4.00	5.02	4.00	1.13	5.44	4.00	19384
5.19	0.03	0.36	0.94	6.52	5.75	1.95	5.90	5.00	3.95	4.00	4.02	4.02	4.00	19107
0.28	2.08	0.45	0.61	3.42	3.30	0.65	9.13	9.00	8.48	8.00	4.42	4.42	4.00	19201
0.05	0.96	0.04	1.15	2.20	1.70	0.40	8.88	9.00	8.48	8.00	2.71	2.71	2.00	19474
1.79	0.32	0.56	3.21	5.88	5.75	0.30	6.38	5.00	6.08	5.00	1.24	6.09	5.00	19457
0.87	0.06	0.57	2.98	4.48	4.11	0.55	5.70	4.00	5.15	4.00	0.56	5.10	5.00	19350
0.72	0.02	0.10	0.94	1.78	1.65	2.30	11.03	8.00	8.73	8.00	2.27	2.27	2.00	19524
1.65	0.03	0.07	1.67	3.42	3.30	1.60	10.05	8.00	8.45	8.00	4.53	4.53	4.00	19347

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	
	<i>Sampled by Station:</i>			
	<b>F. E. Boardman, Middletown.</b>			
19336	Fertilizer for Potatoes and General Crops .....	3.3-7-4	Factory .....	\$40.00
19475	Tobacco Fertilizer .....	3.3-7-4	Portland .....	41.00
	<b>Bowker Fertilizer Co., New York.</b>			
19116	All-Round Fertilizer .....	2.5-8-4	Yalesville .....	53.75
19643	Connecticut Valley Tobacco Fertilizer .....	4.1-4-3	Talcottville .....	53.00
19451	Corn, Grain and Grass Phosphate..	1.7-8-2	Willimantic .....	38.50
19202	Early Potato Manure .....	3.3-8-7	Milldale .....	
18923	Fisherman's Brand Fish and Potash	2.5-10-3	Plainville .....	47.00
19469	Hill and Drill Phosphate .....	2.5-9-2	Willimantic .....	43.00
19383	Lawn and Garden Dressing Revised	2.5-9-2	Hartford .....	†
19330	Potato and Vegetable Phosphate ..	1.7-8-3	Thomaston .....	46.50
19162	Square Brand Farm and Garden Phosphate .....	1.7-8-2	Yalesville .....	47.20
19197	Sure Crop Phosphate .....	0.8-8-2	Willimantic .....	35.00
19164	Maryland Corn Phosphate .....	1.7-8-2	New London .....	30.00
19165	Maryland High Potash Fertilizer..	3.3-6-10	New London .....	50.00
19117	Maryland Truck Garden Fertilizer.	3.3-8-4	New London .....	40.00
19111	Stockbridge Early Crop Manure...	4.1-8-7	North Haven .....	53.25
18922	Stockbridge Market Garden Manure	3.3-8-4	Plainville .....	54.00
19161	Stockbridge Potato and Vegetable Manure .....	3.3-6-10	Bristol .....	49.00
19332	Stockbridge Tobacco Manure.....	4.1-4-5	Avon .....	56.00
19375*	Stockbridge Top Dressing and Forcing Manure .....	4.9-6-4	Thomaston .....	60.00
	<b>Amos D. Bridge's Sons, Inc., Hazardville.</b>			
19333	Corn, Onion and General Purpose Fertilizer .....	3.3-8-4	Factory .....	48.50
19525	Tobacco Fertilizer Special .....	4.1-4-5	Factory .....	60.00
	<b>E. D. Chittenden Co., Bridgeport.</b>			
19468	Complete Grain Fertilizer with 3% Potash .....	1.6-8-3	Abington .....	41.00
19381†	Complete Tobacco and Onion Grower, 4% Potash .....	3.3-8-4	Simsbury .....	47.50
19645	Complete Tobacco and Onion Grower, 6% Potash .....	3.3-8-6	Glastonbury .....	49.50
19470	Potato Special with 4% Potash....	3.3-8-4	Torrington .....	53.00
19465	Potato Special with 6% Potash....	3.3-8-6	Glastonbury .....	49.50
19472	Tobacco Special with 5% Potash...	4.1-4-5	Poquonock .....	51.00

\* See note, pages 108 and 111.

† See note, page 108.

‡ Ninety-eight cents for 10-pound package.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.				Station No.	
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	Guaranteed.	Found.	Guaranteed.	As muriate.	Total.	Guaranteed.	
I.12	1.08	0.28	0.84	3.32	3.29	0.20	7.80	....	7.60	7.00	3.95	3.95	4.00	19336
I.14	0.91	0.41	1.36	3.82	3.29	0.38	7.33	....	6.95	7.00	0.48	6.00	4.00	19475
0.30	0.90	0.19	1.15	2.54	2.47	1.20	9.16	9.00	7.96	8.00	1.93	3.72	4.00	19116
0.83	0.04	0.26	3.05	4.18	4.11	0.18	4.58	5.00	4.40	4.00	0.33	3.56	3.00	19643
0.58	0.16	0.48	0.40	1.62	1.65	1.05	9.15	9.00	8.10	8.00	1.99	1.99	2.00	19451
0.44	1.92	0.36	0.68	3.40	3.29	0.72	8.50	9.00	7.78	8.00	7.00	7.00	7.00	19202
0.13	0.80	0.30	1.09	2.32	2.47	1.08	11.93	11.00	10.85	10.00	2.90	2.90	3.00	18923
0.50	1.32	0.10	0.60	2.52	2.47	1.00	9.98	10.00	8.98	9.00	2.13	2.13	2.00	19469
0.86	0.17	0.19	1.56	2.78	2.47	3.03	12.40	10.00	9.37	9.00	2.28	2.28	2.00	19383
0.10	0.77	0.24	0.60	1.71	1.65	0.65	9.10	9.00	8.45	8.00	2.94	2.94	3.00	19330
0.15	0.78	0.13	0.66	1.72	1.65	1.38	9.45	9.00	8.07	8.00	1.97	1.97	2.00	19162
0.27	0.06	0.42	0.19	0.94	0.82	1.38	9.58	9.00	8.20	8.00	2.10	2.10	2.00	19197
0.60	0.40	0.34	0.42	1.76	1.65	0.90	9.00	9.00	8.10	8.00	1.92	1.92	2.00	19164
0.95	1.75	0.25	0.59	3.54	3.29	0.75	7.00	7.00	6.25	6.00	9.64	9.64	10.00	19165
0.89	1.15	0.49	0.83	3.36	3.29	0.85	8.88	9.00	8.03	8.00	3.93	3.93	4.00	19117
2.24	0.64	0.38	0.50	3.76	4.11	0.80	9.03	9.00	8.23	8.00	8.15	8.15	7.00	19111
0.77	1.59	0.11	0.93	3.40	3.29	0.90	9.15	9.00	8.25	8.00	3.96	3.96	4.00	18922
0.67	1.48	0.45	0.98	3.58	3.29	0.53	6.93	7.00	6.40	6.00	10.02	10.02	10.00	19161
0.11	1.08	none	3.49	4.68	4.11	0.23	5.00	5.00	4.77	4.00	0.32	4.86	5.00	19332
I.41	2.34	0.18	0.66	4.59	4.94	0.35	6.32	7.00	5.97	6.00	3.67	3.67	4.00	19375
I.01	0.07	0.72	1.81	3.61	3.30	1.40	9.88	8.00	8.48	8.00	4.48	4.48	4.00	19333
0.93	0.05	0.52	2.96	4.46	4.11	0.68	5.58	4.00	4.90	4.00	1.57	5.09	5.00	19525
0.15	0.80	0.34	0.58	1.87	1.64	1.28	8.76	9.00	7.48	8.00	3.38	3.38	3.00	19468
1.78	0.12	0.50	0.76	3.16	3.29	1.98	9.63	9.00	7.65	8.00	0.94	4.01	4.00	19381
0.80	1.30	0.26	0.95	3.31	3.29	1.00	9.50	9.00	8.50	8.00	6.78	6.78	6.00	19645
0.14	2.46	0.06	0.44	3.10	3.29	0.40	9.23	9.00	8.83	8.00	4.82	4.82	4.00	19470
0.06	1.61	0.60	0.98	3.25	3.20	1.90	10.75	9.00	8.85	8.00	5.48	5.48	6.00	19465
0.03	2.21	0.39	1.65	4.28	4.11	0.35	5.90	5.00	5.55	4.00	0.57	5.65	5.00	19472

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.	
	<i>Sampled by Station:</i>			
	<b>Everett B. Clark Seed Co., Milford.</b>			
19327	Special Mixture Corn Starter with 2% Potash .....	2.5-8-2	Factory .....	\$38.00
19046	Special Mixture for General Use, 4% Potash .....	3.3-10-4	Southport .....	36.60
18963	Special Mixture with 6% Potash...	3.3-8-6	Factory .....	45.00
19328	Special Mixture Tip Top Brand....	4.1-8-5	Southport .....	38.50
	<b>Coe-Mortimer Co., New York.</b>			
19159	Celebrated Special Potato Fertilizer	3.3-8-4	New Canaan .....	.....
19473	Columbian Corn and Potato Fertilizer .....	1.7-8-3	Greenwich .....	55.00
19337	Connecticut Wrapper Grower .....	4.1-4-5	Simsbury .....	56.00
19158*	Gold Brand Excelsior Guano .....	2.5-8-4	New Canaan .....	42.00
19109	New Englander Special .....	0.8-8-2	New Canaan .....	25.00
19194†	Red Brand Excelsior Guano .....	3.3-8-7	Abington .....	53.00
19378	Special Grass Top Dressing .....	4.9-6-4	Milford .....	60.00
	<b>Eastern States Farmers' Exchange, Springfield, Mass.</b>			
19331	2-8-2 .....	1.7-8-2	Litchfield .....	.....
19038	3-8-4 .....	3.3-8-4	Madison .....	35.82
19130	4-8-4 .....	3.3-8-4	Branford .....	40.00
19310	4-8-4 .....	3.3-8-4	Granby .....	39.30
19042	4-8-7 .....	3.3-8-7	Madison .....	41.86
19410	5-8-5 .....	4.1-8-5	Granby .....	43.64
19409	Tobacco Special .....	4.1-4-5	Granby .....	48.40
	<b>Essex Fertilizer Co., Boston, Mass.</b>			
19408	1-10-1 for Grain and Grass .....	0.8-10-1	Wallingford .....	40.00
19415	2-8-2 for Farm and Garden .....	1.6-8-2	Cromwell .....	48.00
19198*	4-8-4 for Potatoes, Roots and Vegetables .....	3.3-8-4	Hartford .....	.....
19126	Fish Fertilizer, 3-8-3, for All Crops.	2.5-8-3	Wallingford .....	45.00
19479	Market Garden, 3-8-4, for Vegetables and Grass .....	2.5-8-4	Wallingford .....	47.00
19650	Essex Special Tobacco Grower, 5-5-5 .....	4.1-5-5	East Granby .....	57.00
19649	Tobacco, 5-4-3 .....	4.1-4-3	West Suffield .....	.....

\* See note, page 111.

† See note, pages 108 and 111.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.				Station No.	
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Guaranteed.	Citrate insoluble.	Found.	Guaranteed.	Total.	So-called "Available."	Guaranteed.	As muriate.	Total.	Guaranteed.
1.46	0.72	0.13	0.69	3.00	2.46	1.33	9.60	8.25	8.27	8.00	2.86	2.86	2.00	19327
0.99	1.32	0.25	0.88	3.44	3.28	1.20	12.10	10.25	10.90	10.00	3.18	4.12	4.00	19046
0.61	1.50	0.25	0.98	3.34	3.28	0.93	9.85	8.25	8.92	8.00	6.58	6.58	6.00	18063
0.13	2.70	0.33	1.14	4.30	4.10	0.90	10.03	8.25	9.13	8.00	5.27	5.27	5.00	19328
0.57	1.22	0.36	1.22	3.37	3.29	1.28	9.28	9.00	8.00	8.00	2.21	3.66	4.00	19159
0.10	0.84	0.09	0.62	1.65	1.65	0.63	8.87	9.00	8.24	8.00	2.96	2.96	3.00	19473
0.99	0.03	0.37	3.00	4.39	4.11	0.28	4.89	5.00	4.61	4.00	0.35	5.07	5.00	19337
0.49	1.11	0.16	0.82	2.58	2.47	1.05	9.78	9.00	8.73	8.00	3.76	3.76	4.00	19158
0.05	0.16	0.32	0.47	1.00	0.82	1.40	9.44	9.00	8.04	8.00	0.78	1.90	2.00	19109
0.86	0.90	0.49	0.90	3.15	3.29	0.90	9.05	9.00	8.15	8.00	6.78	6.78	7.00	19194
1.97	1.24	0.75	0.87	4.83	4.94	1.03	7.25	7.00	6.22	6.00	4.28	4.28	4.00	19378
0.09	0.78	0.16	0.45	1.48	1.65	1.60	10.80	....	9.20	8.00	2.36	2.36	2.00	19331
0.66	1.50	1.04	0.10	3.30	2.46	1.90	10.10	....	8.20	8.00	3.94	3.94	4.00	19038
0.36	1.30	0.91	0.59	3.16	3.29	1.28	9.78	....	8.50	8.00	3.63	3.63	4.00	19130
0.07	1.93	0.26	0.78	3.04	3.29	1.70	10.40	....	8.70	8.00	4.30	4.30	4.00	19310
0.84	1.35	0.58	0.78	3.55	3.29	1.04	9.80	....	7.86	8.00	7.02	7.02	7.00	19042
0.34	2.50	0.61	0.96	4.41	4.11	0.80	9.48	....	8.68	8.00	4.88	4.88	5.00	19410
0.71	1.38	0.14	1.83	4.06	4.11	0.18	5.48	....	5.30	4.00	0.37	4.24	5.00	19409
0.04	0.06	0.43	0.43	0.96	0.82	0.98	11.43	11.00	10.45	10.00	0.97	0.97	1.00	19408
0.13	0.30	0.55	0.70	1.68	1.64	0.55	8.55	9.00	8.00	8.00	2.04	2.04	2.00	19415
0.50	1.23	0.78	0.91	3.42	3.29	1.05	9.48	9.00	8.43	8.00	3.86	3.86	4.00	19198
0.50	0.94	0.53	0.69	2.66	2.46	0.65	9.15	9.00	8.50	8.00	3.18	3.18	3.00	19126
0.56	0.91	0.49	0.65	2.61	2.46	1.10	9.40	9.00	8.30	8.00	4.33	4.33	4.00	19479
1.50	0.14	0.48	1.98	4.10	4.10	0.88	7.23	6.00	6.35	5.00	0.96	5.09	5.00	19650
1.67	0.05	0.83	1.73	4.28	4.11	1.33	6.23	5.00	4.90	4.00	0.62	3.22	3.00	19649

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
<b>L. T. Frisbie Co., New Haven.</b>			
19011	5-8-7 .....	4.1-8-7	Highwood .....
19018	Corn and Grain Fertilizer .....	1.6-8-2	Danbury .....
19012	Market Garden, 4-8-6 .....	3.3-8-6	Southport .....
19480	Special .....	2.5-8-4	North Haven .....
19014	Superphosphate, 3-8-3 .....	2.5-8-3	Danbury .....
19364	Tobacco Grower, 5-5-5 .....	4.1-5-5	East Hartford .....
19455	Tobacco Manure, 5-8-6 .....	4.1-8-6	Glastonbury .....
19624	Top Dresser, 7-5-4, for Grass and Market Gardens .....	5.8-5-4	Wethersfield .....
19017	Vegetable and Potato Grower.....	3.3-8-4	Danbury .....
<b>A. W. Higgins, Inc., South Deerfield, Mass.</b>			
19724	Old Deerfield Fertilizer, 5-8-7.....	4.1-8-7	Suffield .....
19725	Tobacco Fertilizer .....	.....	.....
<b>International Agricultural Corp., Boston, Mass.</b>			
19369	Buffalo Complete Tobacco .....	3.3-4-4	West Suffield .....
19488*	Buffalo Crop Grower .....	4.1-8-7	Pomfret Center .....
19484	Buffalo Economy .....	1.6-8-2	West Suffield .....
19191	Buffalo Farmers' Choice .....	0.8-8-4	Ansonia .....
19036	Buffalo High-Grade Manure .....	3.3-6-10	East Haven .....
19452	Buffalo New England Special .....	1.6-10-4	Litchfield .....
19486	Buffalo Tobacco Producer .....	4.5-5-5.5	Buckland .....
19458	Buffalo Top Dresser and Starter..	5.8-6-5	West Suffield .....
19035	Buffalo Vegetable and Potato .....	2.5-8-6	Ansonia .....
19413	Buffalo Vegetable and Potato .....	2.5-8-6	West Suffield .....
<b>Levering Fertilizer Co., Baltimore, Md.</b>			
19529*	General Fertilizer .....	3.3-8-4	Colchester .....
19151*	Market Garden .....	4.1-8-7	Middletown .....
19150	Potato Phosphate .....	2.5-8-4	Middletown .....
19167	Potato Special .....	3.3-8-6	Middletown .....
19166	Tobacco Special .....	4.1-5-5	Middletown .....

\* See note,\* page 108.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates,	Nitrogen.				Phosphoric Acid.				Potash.				Station No.
	In ammonia.		Organic, water-soluble.	Organic, water-insoluble.	Total.	Citrate-insoluble.	Total.	So-called “Available.”	As muriate.	Total.	Found.	Guaranteed.	
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	
0.82	1.08	1.06	1.07	4.03	4.10	1.05	10.05	9.00	9.00	8.00	7.18	7.18	7.00
0.35	0.07	0.73	0.54	1.69	1.64	0.63	8.70	9.00	8.07	8.00	2.19	2.19	2.00
0.83	1.07	0.63	0.79	3.32	3.28	1.08	9.35	9.00	8.27	8.00	5.99	5.99	6.00
0.65	0.69	0.43	0.63	2.40	2.46	1.15	9.35	9.00	8.20	8.00	3.80	3.80	4.00
0.47	0.82	0.59	0.64	2.52	2.46	0.95	9.40	9.00	8.45	8.00	3.26	3.26	3.00
1.38	0.07	0.78	1.95	4.18	4.10	0.95	6.08	6.00	5.13	5.00	0.97	5.09	5.00
1.99	0.07	1.10	1.32	4.48	4.10	0.75	9.10	9.00	8.35	8.00	1.08	6.12	6.00
2.39	2.21	0.50	0.62	5.72	5.75	0.65	6.63	6.00	5.98	5.00	3.90	3.90	4.00
1.25	0.67	0.66	0.76	3.34	3.28	1.28	9.50	9.00	8.22	8.00	4.32	4.32	4.00
0.74	1.36	0.79	1.24	4.13	4.11	0.96	10.07	....	9.11	8.00	0.62	7.44	7.00
0.16	1.04	0.69	3.93	5.82	...	0.26	6.41	....	6.15	....	0.85	5.91	....
0.24	0.72	0.32	1.99	3.27	3.30	0.25	4.78	5.00	4.53	4.00	0.29	4.50	4.00
1.43	0.34	0.55	0.75	3.07	4.10	0.47	7.20	9.00	6.73	8.00	8.96	8.96	7.00
0.31	0.22	0.39	0.68	1.60	1.60	2.58	10.70	9.00	8.12	8.00	2.03	2.03	2.00
0.04	0.44	0.15	0.34	0.97	0.80	1.15	9.73	9.00	8.58	8.00	3.87	3.87	4.00
0.05	1.38	0.72	1.01	3.16	3.30	0.50	6.58	7.00	6.08	6.00	11.30	11.30	10.00
0.56	0.22	0.17	0.68	1.63	1.60	0.85	11.25	11.00	10.40	10.00	3.78	3.78	4.00
0.09	2.46	0.07	2.08	4.70	4.50	0.13	6.63	6.00	6.50	5.00	0.43	5.03	5.50
0.88	2.64	0.41	1.77	5.70	5.80	0.10	6.38	7.00	6.28	6.00	0.77	5.00	5.00
0.03	1.00	0.70	0.82	2.55	2.50	0.98	9.70	9.00	8.72	8.00	5.75	5.75	6.00
0.26	0.83	0.75	0.79	2.63	2.50	0.68	8.90	9.00	8.22	8.00	6.47	6.47	6.00
0.44	1.33	0.34	0.75	2.86	3.29	0.50	8.75	....	8.25	8.00	3.65	3.65	4.00
0.34	2.54	0.35	0.66	3.89	4.12	1.08	9.28	....	8.20	8.00	7.14	7.14	7.00
0.38	1.32	0.16	0.54	2.40	2.47	0.43	9.07	....	8.64	8.00	3.85	3.85	4.00
0.41	1.77	0.27	0.66	3.11	3.29	0.48	9.20	....	8.72	8.00	5.41	5.41	6.00
0.14	2.70	0.32	1.02	4.18	4.12	0.78	8.93	....	8.15	5.00	5.39	5.39	5.00

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
Lowell Fertilizer Co., Boston, Mass.			
19186	2-8-3 for Vegetables and Grain....	1.6-8-3	Cheshire .....
19633	2-8-6 for Grain, Grass and Potatoes	1.6-8-6	Southford .....
19365	3-6-10 for Corn, Potatoes and Vegetables .....	2.5-6-10	Rockville .....
19185	4-6-10 for Potatoes and Vegetables	3.3-6-10	Cheshire .....
19187†	4-8-4 for Corn, Potatoes and Vegetables .....	3.3-8-4	Cheshire .....
18921	5-8-4 for Vegetables and Grass ....	4.1-8-4	Southington .....
19483*	5-8-7 for Potatoes and Vegetables.	4.1-8-7	South Manchester .....
19053	Animal Brand 3-8-4 for All Crops..	2.5-8-4	Wallingford .....
19477	Bone Fertilizer, 2-8-2, for Corn, Grain, Grass and Vegetables....	1.6-8-2	Southington .....
19050	Empress Brand, 1-10-1 .....	0.8-10-1	Southington .....
19644	Tobacco, 5-5-5 .....	4.1-5-5	South Manchester .....
Mapes Fertilizer and Peruvian Guano Co., New York.			
19414	Connecticut Valley Special .....	4.9-4-7	East Granby .....
19157	Corn Manure .....	2.5-8-3	Windsor Locks .....
19487	Cotton Seed Tobacco Manure .....	4.1-4-1	Melrose .....
19453	General Tobacco Manure .....	4.1-4-5	Hartford .....
19482	General Truck Manure .....	4.1-6-5	Hartford .....
19434	General Use Manure .....	2.5-6-4	Hartford .....
19359	Onion Manure .....	3.3-6-4	Hartford .....
19052	Potato Manure .....	3.3-7-5	Windsor Locks .....
19478	Tobacco Ash Constituents .....	0.8-4-15	Suffield .....
19367	Tobacco Manure Wrapper Brand..	6.2-2-10.5	South Windsor .....
19693	Tobacco Manure Wrapper Brand..	6.2-2-10.5	Burnside .....
19156	Tobacco Starter Improved .....	4.1-6-1	Windsor Locks....
18967	Top Dresser .....	8.2-4-2	Windsor Locks....
W. L. Mitchell, New Haven.			
19481	2-8-2 .....	1.6-8-2	Ansonia .....
19358‡	5-8-7 .....	4.1-8-7	Ansonia .....
19694	5-8-7 .....	4.1-8-7	Somers .....

\* See note, page 108.

† See note, page 111.

‡ See note, page 110.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

Price per ton.	Nitrogen.						Phosphoric Acid.						Potash.			Station No.
	In nitrates.			In ammonia.			Citrate-insoluble.			Total.			So-called "Available."			
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	As muriate.	Found.	Total.	Guaranteed.		
0.00	0.02	0.82	0.36	0.59	1.79	1.64	0.65	8.76	9.00	8.11	8.00	2.83	2.83	3.00	19186	
0.00	0.09	0.04	0.73	0.95	1.81	1.64	0.55	9.11	9.00	8.56	8.00	6.88	6.88	6.00	19633	
0.00	0.89	0.03	0.68	0.90	2.50	2.46	0.40	6.53	7.00	6.13	6.00	10.46	10.46	10.00	19365	
0.50	1.24	0.84	0.63	0.69	3.40	3.28	0.73	7.10	7.00	6.37	6.00	10.18	10.18	10.00	19185	
0.00	0.56	1.21	0.75	0.91	3.43	3.28	1.03	9.45	9.00	8.42	8.00	3.88	3.88	4.00	19187	
0.00	1.76	0.08	1.17	1.30	4.31	4.10	0.60	9.43	9.00	8.83	8.00	4.09	4.20	4.00	18921	
0.00	1.38	0.54	0.72	1.17	3.81	4.10	0.68	8.80	9.00	8.12	8.00	6.99	6.99	7.00	19483	
0.00	0.62	0.84	0.48	0.58	2.52	2.46	1.00	9.05	9.00	8.05	8.00	3.98	3.98	4.00	19053	
0.00	0.07	0.60	0.46	0.60	1.73	1.64	0.53	9.30	9.00	8.77	8.00	1.93	1.93	2.00	19477	
0.00	0.02	0.08	0.50	0.32	0.92	0.82	0.70	10.78	11.00	10.08	10.00	1.00	1.00	1.00	19050	
0.00	1.60	0.12	0.63	1.95	4.30	4.10	0.83	6.65	6.00	5.82	5.00	5.01	5.01	5.00	19644	
0.00	2.74	0.08	0.50	1.93	5.25	4.94	1.38	5.88	...	4.50	4.00	1.52	6.94	7.00	19414	
0.00	0.87	0.80	0.15	0.45	2.27	2.47	2.35	10.27	10.00	7.92	8.00	3.95	3.95	3.00	19157	
0.00	1.69	0.68	0.25	0.28	4.10	4.12	1.93	6.35	...	4.42	4.00	0.61	2.92	1.00	19487	
0.00	2.28	0.05	0.12	1.97	4.42	4.12	1.50	5.65	...	4.15	4.00	1.05	5.24	5.00	19453	
0.00	2.77	0.95	0.07	0.55	4.34	4.12	2.58	0.38	8.00	6.80	6.00	4.49	5.16	5.00	19482	
0.00	1.77	0.55	0.04	0.40	2.76	2.47	2.05	8.95	8.00	6.30	6.00	2.95	4.17	4.00	19434	
0.00	3.29	0.04	0.15	0.44	3.92	3.29	2.55	8.55	8.00	6.00	6.00	0.35	3.65	4.00	19359	
0.00	1.59	1.49	0.04	0.38	3.50	3.29	1.93	9.05	8.00	7.12	7.00	5.01	5.01	5.00	19052	
0.00	0.12	0.04	0.11	0.96	1.23	0.82	2.69	6.38	6.00	3.60	4.00	1.71	15.05	15.00	19478	
0.00	4.19	0.03	0.68	1.69	6.59	6.18	1.05	5.10	4.50	4.05	2.00	1.14	9.01	10.50	19367	
0.00	3.37	...	0.69	2.04	6.10	6.18	1.53	5.93	4.50	4.40	2.00	1.70	11.26	10.50	19693	
0.00	3.71	0.09	0.24	0.78	4.82	4.12	1.70	8.08	8.00	6.38	6.00	0.70	1.44	1.00	19156	
0.00	2.86	4.82	0.10	0.46	8.24	8.22	1.48	6.50	6.00	5.02	4.00	2.02	2.55	2.00	18967	
0.00	0.08	0.72	0.40	0.48	1.68	1.64	1.45	9.60	9.00	8.15	8.00	2.14	2.14	2.00	19481	
0.00	1.16	1.16	0.30	0.80	3.42	4.10	1.24	8.92	9.00	7.68	8.00	6.48	6.48	7.00	19358	
0.00	0.09	2.94	0.29	0.47	3.79	4.10	1.33	9.65	9.00	8.32	8.00	6.71	6.71	7.00	19694	

† 6.53 as sulphate; 6.81 as carbonate.

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
<b>New England Fertilizer Co., Boston, Mass.</b>			
19120	2-8-3 for Vegetables and Grain....	1.6-8-3	Meriden .....
19692	2-8-3 for Vegetables and Grain....	1.6-8-3	East Woodstock .....
19125	3-8-4 Superphosphate for All Crops	2.5-8-4	East Wallingford .....
19195†	4-8-6 for Potatoes and Vegetables..	3.3-8-6	Putnam .....
19196*	5-8-7 for Potatoes and Market Gar- dens .....	4.1-8-7	Putnam .....
19366	Corn Phosphate, 2-8-2, for Grain and Vegetables .....	1.6-8-2	Rockville .....
19666	Special Tobacco Grower, 5-4-3....	4.1-4-3	Warehouse Point .....
19363	Tobacco, 5-5-5 .....	4.1-5-5	Unionville .....
19634	Tobacco Manure, 5-8-6 .....	4.1-8-6	Warehouse Point .....
<b>Olds &amp; Whipple, Inc., Hartford.</b>			
19091	Complete Corn, Onion and Potato Fertilizer .....	3.3-8-4	Silver Lane .....
19498	Complete Tobacco Fertilizer.....	4.1-4-5	South Windsor .....
19051	Grass Fertilizer .....	5-8-6	Factory .....
19416	High-Grade Potato Fertilizer.....	4.1-8-7	Wethersfield .....
19500	High-Grade Starter and Potash Compound .....	4.1-4-15	Factory .....
19501	Special Corn, Onion and Potato Fertilizer .....	2.5-8-2	Factory .....
<b>Parmeter &amp; Polsey Fertilizer Co., Boston, Mass.</b>			
19417	2-8-2 for Farm and Garden.....	1.6-8-2	South Manchester .....
19200	4-8-4 for Potatoes, Corn and Vege- tables .....	3.3-8-4	Wallingford .....
19631	Tobacco, 5-4-3 .....	4.1-4-3	Gaylordsville .....
19632	5-5-5 .....	4.1-5-5	Gaylordsville .....
19626	5-8-4 for Potatoes, Corn and Vege- tables .....	4.1-8-4	Stafford Springs .....
19625*	5-8-7 for Potatoes and Market Gar- dens .....	4.1-8-7	Stafford Springs .....
19362	Plymouth Rock Brand, 3-8-4, for All Crops .....	2.5-8-4	Plainville .....
<b>Frank S. Platt Co., New Haven.</b>			
18901	Platco Special .....	3.3-8-6	Factory .....

\* See note, page 108.

† See note, page 111.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.				Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	So-called "Available."	As muriate.	Total.	Found.	Guaranteed.	
0.14	0.70	0.43	0.49	1.76	1.64	0.60	8.66	9.00	8.06	8.00	2.44	2.44	3.00 19120
0.10	0.63	0.30	0.65	1.68	1.64	0.68	9.08	9.00	8.40	8.00	2.98	2.98	3.00 19692
0.60	0.91	0.48	0.61	2.60	2.46	1.08	9.13	9.00	8.05	8.00	4.17	4.17	4.00 19125
0.68	1.14	0.58	0.94	3.34	3.28	0.98	9.33	9.00	8.35	8.00	5.87	5.87	6.00 19195
1.35	0.59	0.79	1.07	3.80	4.10	0.75	9.30	9.00	8.55	8.00	7.14	7.14	7.00 19196
0.12	0.62	0.39	0.51	1.64	1.64	0.56	8.35	9.00	7.79	8.00	1.76	1.76	2.00 19366
1.53	0.05	0.75	1.96	4.29	4.10	0.80	5.60	5.00	4.80	4.00	0.45	3.48	3.00 19666
0.68	0.82	0.91	1.73	4.14	4.10	0.75	6.85	6.00	6.10	5.00	0.86	5.57	5.00 19363
1.50	0.06	1.05	1.39	4.00	4.10	0.75	9.45	9.00	8.70	8.00	0.89	6.39	6.00 19634
1.47	0.04	0.16	1.70	3.37	3.30	1.63	9.78	8.00	8.15	8.00	4.58	4.58	4.00 19091
0.82	0.06	0.46	3.02	4.36	4.11	0.80	5.85	4.00	5.05	4.00	0.64	5.10	5.00 19498
2.47	0.04	0.70	2.09	5.30	4.95	1.74	9.91	8.00	8.17	8.00	6.70	6.70	6.00 19051
1.61	0.04	none	2.77	4.42	4.11	2.10	10.45	8.00	8.35	8.00	4.90	7.50	7.00 19416
1.50	0.04	0.29	2.48	4.31	4.11	0.45	5.13	4.00	4.68	4.00	1.90	16.07	15.00 19500
1.16	0.02	0.24	1.25	2.67	2.45	1.35	9.95	8.00	8.60	8.00	2.50	2.50	2.00 19501
0.14	0.59	0.34	0.56	1.63	1.64	0.55	8.48	9.00	7.93	8.00	2.09	2.09	2.00 19417
0.49	1.19	0.75	0.91	3.34	3.28	1.05	9.45	9.00	8.40	8.00	4.02	4.02	4.00 19200
1.26	0.08	0.79	1.77	3.90	4.10	1.03	5.95	5.00	4.92	4.00	0.82	3.68	3.00 19631
1.38	0.07	0.85	1.80	4.10	4.10	0.80	6.85	6.00	6.05	5.00	0.82	5.61	5.00 19632
1.57	0.06	1.11	1.32	4.06	4.10	0.70	9.78	9.00	9.08	8.00	4.31	4.31	4.00 19626
1.28	0.56	0.88	1.08	3.80	4.10	0.75	9.18	9.00	8.43	8.00	7.09	7.09	7.00 19625
0.56	0.88	0.50	0.59	2.53	2.46	0.95	9.05	9.00	8.10	8.00	3.90	3.90	4.00 19362
1.90	0.05	0.75	0.77	3.47	3.29	0.55	9.25	9.00	8.70	8.00	5.72	5.72	6.00 18901

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
<i>Sampled by Station:</i>			
<b>The Rogers &amp; Hubbard Co., Portland.</b>			
19248*	Hubbard's Bone Base Fertilizer for Seeding Down .....	2.5-6-4	North Haven ..... \$52.00
19623*	Hubbard's Bone Base Fertilizer for Seeding Down .....	2.5-6-4	Seymour ..... 50.00
19095	Hubbard's Bone Base Fertilizer for Oats and Top Dressing .....	8.2-3-8	Norwich ..... 68.00
19096	Hubbard's Bone Base Soluble Corn and General Crops Manure.....	2.5-8-6	Norwich ..... 52.00
19380	Hubbard's Bone Base Soluble Potato Manure .....	5-8-5	East Hampton ..... 73.50
18962	R. & H. 4-8-4 Phosphate .....	3.3-8-4	Hartford ..... 54.00
19361	R. & H. Climax Tobacco Brand...	4.1-4-4	Glastonbury ..... 40.00
19494	R. & H. Complete Phosphate .....	0.8-10-3	Norwich ..... 40.00
19495	R. & H. Potato Phosphate .....	1.6-8-4	Norwich ..... 43.00
19368	R. & H. Soluble Tobacco Manure..	5-8-10	Thompsonville ..... 66.50
19360	R. & H. Tobacco Grower, Vegetable Formula .....	5-4-4	Glastonbury ..... 40.00
18961	Garden Phosphate‡ .....	1.6-8-4	Hartford ..... 47.00
<b>F. S. Royster Guano Co., Baltimore, Md.</b>			
19356*	Arrow Head Tobacco Formula....	4.1-4-3	Granby ..... 57.00
19240	Bully Guano .....	1.6-8-5	Ansonia ..... 44.00
19503	Fish, Flesh and Fowl .....	1.6-8-3	Trumbull ..... 40.00
19128	Fish and Potash .....	1.6-8-1	Plantsville ..... 35.00
19124†	Quality Trucker .....	3.3-8-7	Guilford ..... 42.00
19642†	Quality Trucker .....	3.3-8-7	Rockville ..... 40.00
18788	Trucker's Delight .....	3.3-8-4	Milford ..... 47.00
19353	Valley Tobacco Formula .....	4.1-4-5	Glastonbury ..... 52.00
<b>Sanderson Fertilizer &amp; Chemical Co., New Haven.</b>			
19123	Atlantic Coast Bone, Fish and Potash .....	1.6-8-3	Guilford ..... 40.00
19306	Atlantic Coast Bone, Fish and Potash .....	1.6-8-3	West Cheshire .... 42.00
19497	Complete Tobacco Grower .....	4.1-4-5	Windsor Locks .....
19348	Corn Superphosphate .....	1.6-8-2	Seymour ..... 45.00
19086	Formula A .....	3.3-8-4	East Haven .....
19087	Formula B .....	3.3-8-6	Highwood .....
19127§	Potato Manure .....	2.5-8-4	West Cheshire .... 46.50
19305	Potato Manure .....	2.5-8-4	Hamden ..... 48.00
19507*	Top Dressing for Grass and Grain	5-6-4	Seymour ..... 57.00
19436	Kelsey's Bone, Fish and Potash....	2.5-10-3	Factory ..... 42.25

\* See note, page 108.

† See note, pages 108 and 110.

‡ Potato Phosphate Formula.

§ See note, page 111.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Continued.

	Nitrogen.						Phosphoric Acid.				Potash.			Station No.	
	In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.		Citrate-insoluble.	Total.	Guaranteed.	So-called “Available.”	As muriate.	Total.	Found.	Guaranteed.	
					Found.	Guaranteed.		Found.	Guaranteed.	Found.	Guaranteed.		Found.	Guaranteed.	
none	0.75	0.41	0.89	2.05	2.46	9.13	14.57	15.00	5.44	6.00	4.27	4.27	4.00	19248	
0.10	0.91	0.34	0.89	2.24	2.46	8.64	14.20	15.00	5.56	6.00	3.85	3.85	4.00	19623	
5.01	2.99	0.06	0.31	8.37	8.22	1.75	7.70	8.00	5.95	3.00	7.87	7.87	8.00	19095	
0.03	1.41	0.68	0.62	2.74	2.46	0.95	10.00	10.00	9.05	8.00	5.87	5.87	6.00	19096	
0.91	2.19	1.11	0.99	5.20	5.00	1.20	9.28	10.00	8.08	8.00	1.06	5.22	5.00	19380	
0.01	2.69	0.29	0.73	3.72	3.29	0.93	9.33	9.00	8.40	8.00	4.10	4.10	4.00	18962	
0.17	1.06	0.37	2.80	4.40	4.11	0.20	5.30	5.00	5.10	4.00	0.85	4.40	4.00	19361	
0.24	0.66	0.13	0.57	1.00	0.82	2.00	12.15	11.00	10.15	10.00	3.11	3.11	3.00	19494	
0.05	0.87	0.33	0.57	1.82	1.64	1.70	10.05	9.00	8.35	8.00	4.26	4.26	4.00	19495	
1.69	1.38	1.03	1.10	5.20	5.00	0.98	9.78	10.00	8.80	8.00	1.78	10.32	10.00	19368	
1.30	0.11	0.74	3.05	5.20	4.93	1.03	5.88	5.00	4.55	4.00	0.58	4.20	4.00	19360	
0.06	0.58	0.31	0.76	1.71	1.64	0.98	9.48	9.00	8.50	8.00	4.00	4.00	4.00	18961	
0.24	0.76	0.30	2.44	3.74	4.11	0.38	5.20	4.50	4.82	4.00	0.29	3.26	3.00	19356	
0.09	0.91	0.05	0.50	1.55	1.65	0.85	9.38	8.50	8.53	8.00	4.31	4.31	5.00	19240	
0.05	1.00	0.10	0.44	1.59	1.65	0.78	8.75	8.50	7.97	8.00	3.12	3.12	3.00	19503	
0.04	1.04	0.14	0.49	1.71	1.65	0.60	9.30	8.50	8.70	8.00	1.03	1.03	1.00	19128	
0.11	2.04	0.22	0.92	3.29	3.29	1.23	8.06	8.50	7.73	8.00	6.66	6.66	7.00	19124	
0.50	1.50	0.30	0.80	3.10	3.29	0.65	8.85	8.50	8.20	8.00	6.59	6.59	7.00	19642	
none	2.12	1.17	3.29	3.29	0.93	8.99	8.50	8.06	8.00	4.12	4.12	4.00	18788		
0.32	0.94	0.37	2.62	4.25	4.11	0.48	4.68	4.50	4.20	4.00	0.45	4.97	5.00	19353	
0.45	0.28	0.21	0.90	1.84	1.65	1.08	9.48	9.00	8.40	8.00	2.99	2.99	3.00	19123	
0.46	0.42	0.10	0.08	1.96	1.65	1.20	9.78	9.00	8.58	8.00	3.06	3.06	3.00	19306	
1.01	0.07	0.40	2.68	4.16	4.11	0.28	4.55	5.00	4.27	4.00	0.52	5.06	5.00	19497	
0.06	0.52	0.39	0.84	1.81	1.65	0.75	9.33	9.00	8.58	8.00	2.15	2.15	2.00	19348	
0.70	1.58	0.49	0.73	3.50	3.29	1.02	9.36	9.00	8.34	8.00	3.89	4.07	4.00	19086	
0.84	1.16	0.40	1.14	3.54	3.29	1.80	10.30	9.00	8.50	8.00	0.77	6.22	6.00	19087	
0.31	0.80	0.48	0.96	2.55	2.47	0.63	9.03	9.00	8.40	8.00	3.73	3.73	4.00	19127	
0.31	0.62	0.08	1.46	2.47	2.47	0.65	9.03	9.00	8.38	8.00	4.86	4.86	4.00	19305	
1.88	1.06	0.87	0.86	4.67	4.94	0.90	7.20	7.00	6.30	6.00	3.78	3.78	4.00	19507	
0.38	0.82	0.39	0.90	2.40	2.47	1.08	11.28	11.00	10.20	10.00	3.10	3.10	3.00	19436	

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.	Place of Sampling.	Dealer's cash price per ton.
	<i>Sampled by Station:</i>		
19516	M. L. Shoemaker & Co., Philadelphia, Pa. Swift-Sure Superphosphate Crop Grower .....	3.3-8-4	Hartford .....
19648	Swift-Sure Superphosphate Potato No. 1 .....	3.3-8-5	Granby .....
19129	Swift-Sure Superphosphate, Tobacco and General Use .....	2.5-10-3	Glastonbury .....
	<i>Springfield Rendering Co., Springfield, Mass.</i>		
19441	4-8-6 .....	3.3-8-6	Thompsonville ....
19511	Animal Brand, 3-8-4 .....	2.5-8-4	Thompsonville ....
19351	Market Garden Grower and Top Dresser, 5-8-7 .....	4.1-8-7	Hazardville .....
19628	Special Potato, Onion and Vegetable, 4-8-4 .....	3.3-8-4	Suffield .....
19460	Tobacco Special, 5-5-5 .....	4.1-5-5	Thompsonville ....
	<i>Virginia-Carolina Chemical Co., New York.</i>		
18920	Champion Brand .....	3.3-8-4	Plantsville .....
19241	Double Owl Brand .....	3.3-8-6	Guilford .....
19432	Eureka Brand .....	1.6-8-10	North Haven .....
19247	Fish, Phosphate and Potash Brand.	1.6-8-2	North Haven .....
19352	Indian Chief Brand .....	4.1-4-5	Hazardville .....
19131	Owl Brand .....	1.6-8-3	Groton .....
19357	Perfection Brand .....	2.5-9-5	Broad Brook .....
19647	Perfection Brand .....	2.5-9-5	Granby .....
19121	Plow Brand .....	0.8-8-1	Plantsville .....
	<i>What Cheer Chemical Co., Pawtucket, R. I.</i>		
19664*	Superior Brand .....	3.3-8-4	New London .....
	<i>Wilcox Fertilizer Co., Mystic.</i>		
19069	4-8-4 Fertilizer .....	3.3-8-4	Branford .....
19627	4-8-4 Fertilizer .....	3.3-8-4	Ellington .....
19074	5-8-7 Fertilizer .....	4.1-8-7	Factory .....
19513	Corn Special .....	2.5-8-4	Northford .....
19066	Fish and Potash .....	2.5-6-3	Suffield .....
19665	Fish and Potash .....	2.5-6-3	Branford .....
19249	Grain Fertilizer .....	1.6-8-2	Northford .....
19075	Grass and Truck Fertilizer .....	4.1-8-4	Factory .....
19431	Potato Fertilizer .....	1.6-8-3	Suffield .....
19438	Potato and Vegetable Phosphate..	3.3-8-6	Ellington .....
19514	Tobacco Special .....	4.1-4-5	Ellington .....

\* See note, page 108.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH--Continued.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.				Station No.		
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	Guaranteed.	So-called "Available."	Found.	Guaranteed.	As muriate.	Total.	Found.	Guaranteed.
1.71	0.08	0.38	1.17	3.34	3.30	2.43	11.63	10.00	9.20	8.00	4.07	4.07	4.00	19516	
1.35	0.08	0.29	1.35	3.07	3.30	2.28	11.10	11.00	8.82	8.00	5.41	5.41	5.00	19648	
0.68	0.04	0.46	1.12	2.30	2.46	3.13	13.23	11.00	10.10	10.00	1.34	3.06	3.00	19129	
0.66	0.84	1.02	0.70	3.22	3.28	0.50	9.03	9.00	8.53	8.00	6.12	6.12	6.00	19441	
0.38	0.56	0.83	0.56	2.33	2.46	0.48	8.83	9.00	8.35	8.00	4.03	4.03	4.00	19511	
1.18	1.00	1.03	0.79	4.00	4.10	0.68	9.08	9.00	8.40	8.00	7.14	7.14	7.00	19351	
0.71	0.71	0.99	0.79	3.11	3.29	0.53	8.90	9.00	8.37	8.00	4.10	4.10	4.00	19628	
0.95	0.43	0.88	1.88	4.14	4.10	0.83	6.90	6.00	6.07	5.00	0.98	5.14	5.00	19460	
0.06	2.40	0.14	0.58	3.18	3.29	0.68	9.75	9.00	9.07	8.00	3.98	3.98	4.00	18920	
none	3.02	0.15	0.42	3.59	3.29	0.83	9.25	9.00	8.42	8.00	5.96	5.96	6.00	19241	
0.03	1.10	0.08	0.34	1.55	1.65	0.55	9.53	9.00	8.98	8.00	8.57	9.77	10.00	19432	
0.06	0.84	0.20	0.77	1.87	1.65	1.10	9.78	9.00	8.68	8.00	1.96	1.96	2.00	19247	
0.56	0.60	0.30	3.04	4.50	4.11	0.43	5.03	5.00	4.60	4.00	0.92	5.06	5.00	19352	
0.08	1.10	0.15	0.39	1.72	1.65	0.73	9.63	9.00	8.90	8.00	2.70	2.70	3.00	19131	
0.16	2.00	0.05	0.46	2.67	2.47	0.55	9.70	10.00	9.24	9.00	4.91	4.91	5.00	19357	
0.16	1.88	none	0.65	2.69	2.47	0.43	9.88	10.00	9.45	9.00	5.67	5.67	5.00	19647	
0.04	0.54	0.09	0.29	0.96	0.82	1.05	10.30	9.00	9.25	8.00	1.00	1.00	1.00	19121	
0.98	0.26	0.53	1.41	3.18	3.28	1.00	8.62	9.00	7.62	8.00	3.99	3.99	4.00	19664	
0.18	1.38	0.74	1.23	3.53	3.29	1.15	10.18	9.00	9.03	8.00	3.81	3.81	4.00	19069	
0.58	1.36	0.60	1.06	3.60	3.29	1.16	9.30	9.00	8.14	8.00	3.69	3.69	4.00	19627	
1.20	1.48	0.49	1.15	4.32	4.12	0.83	9.03	9.00	8.20	8.00	5.74	6.06	7.00	19074	
0.56	0.78	0.19	0.97	2.50	2.46	0.90	9.19	9.00	8.29	8.00	3.85	3.85	4.00	19513	
0.62	0.17	2.02	2.81	2.46	0.45	7.28	7.00	6.83	6.00	2.82	2.82	3.00	19066		
0.45	0.26	0.56	1.30	2.57	2.16	0.75	7.28	7.00	6.53	6.00	3.22	3.22	3.00	19665	
0.25	0.92	0.46	0.42	2.05	1.65	0.38	8.60	9.00	8.31	8.00	3.99	3.99	2.00	19249	
0.71	1.85	0.69	1.05	4.30	4.12	1.38	9.48	9.00	8.10	8.00	3.80	3.80	4.00	19075	
0.35	0.12	0.39	1.19	2.05	1.65	2.60	10.80	9.00	8.20	8.00	1.99	3.75	3.00	19431	
0.58	1.20	1.00	0.94	3.72	3.29	0.75	8.47	9.00	7.72	8.00	5.75	5.75	6.00	19438	
0.89	0.13	0.62	2.87	4.51	4.12	2.50	7.10	5.00	4.60	4.00	0.12	5.34	5.00	19514	

TABLE XIV. ANALYSES OF

Station No.	Manufacturer and Brand.		Place of Sampling.	Dealer's cash price per ton.
	<i>Sampled by Station:</i>			
	Witherbee, Sherman Co., New York.			
19440	Truck Grower .....	3.3-8-6	Higganum .....	\$44.15
	<i>S. D. Woodruff &amp; Sons, Orange.</i>			
19521	Home Mixed Fertilizer .....	3.3-8-4	Factory .....	46.00
	<i>Worcester Rendering Co., Auburn, Mass.</i>			
19663*	Prosperity Brand Complete Dressing .....	4.9-6-3	Norwich .....	42.00
19661	Prosperity Brand Corn and Grain, 2-8-2 .....	1.6-8-2	Willimantic .....	38.00
19662	Prosperity Brand Market Garden, 4-6-8 .....	3.3-6-8	Willimantic ..	46.00
19442	Prosperity Brand Potato and Vegetable, 4-8-4 .....	3.3-8-4	Norwich .....	38.00
	<i>Sampled by Purchaser:</i>			
19446	American Agr. Chem. Co. National Complete Tobacco Fertilizer .....	4.1-4-5	Warehouse Point..	56.00
19325	Atlantic, 4-8-6 .....	3.3-8-6	Southbury .....	39.50
19491	Chittenden's Tobacco Special .....	4.1-4-5	Rockville .....	46.40
19270	Olds & Whipple's High-Grade Starter and Potash Compound ..	4.1-4-15	East Windsor Hill.	59.25

\* See note, page 108.

## NITROGENOUS SUPERPHOSPHATES WITH POTASH—Concluded.

In nitrates.	Nitrogen.			Phosphoric Acid.						Potash.			Station No.
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	Guaranteed.	So-called “Available.”	As muriate.	Total.	Guaranteed.	
0.65	1.43	0.40	0.88	3.36	3.29	0.53	8.35	....	7.82	8.00	5.98	5.98	6.00 19440
1.31	0.06	0.05	3.20	4.62	3.29	0.59	7.22	....	6.63	8.00	4.69	4.69	4.00 19521
2.41	0.03	0.98	1.10	4.52	4.90	0.70	7.00	7.00	6.30	6.00	3.20	3.20	3.00 19663
0.81	0.04	0.32	0.48	1.65	1.64	0.20	8.28	9.00	8.08	8.00	2.13	2.13	2.00 19661
0.91	0.17	1.46	1.32	3.86	3.29	0.45	7.00	7.00	6.55	6.00	6.44	6.44	8.00 19662
1.66	0.08	0.83	0.92	3.49	3.28	0.35	8.35	9.00	8.00	8.00	4.07	4.07	4.00 19442
....	....	....	....	4.25	4.11	0.30	4.70	5.00	4.40	4.00	0.27	4.82	5.00 19446
....	....	....	....	3.46	3.28	0.75	9.80	9.00	9.05	8.00	6.11	6.11	6.00 19325
....	....	....	....	3.79	4.11	0.20	6.20	5.00	6.00	4.00	4.82	4.82	5.00 19491
....	....	....	....	4.38	4.11	0.45	5.10	4.00	4.65	4.00	2.02	15.34	15.00 19270

#### HOME MIXTURES AND SPECIAL MIXTURES.

The 53 samples whose analyses are given in Table XVI represent mixtures made by corporations or individuals for their own use from chemicals bought by them for the purpose. There are also included analyses of special mixtures, made by fertilizer manufacturers according to the formula ordered by the customer.

The formulas used in mixing were given in 17 cases, and appear in Table XV.

The actual cost of the materials used was given in only six cases, and is included in the table.

TABLE XV. FORMULAS OF SOME OF THE HOME MIXTURES IN TABLE XVI.

Cotton Seed Meal	Castor Oil	Fish.	Tanilage.	Nitrate of Soda.	Sulphate of Ammonia.	Bone.	H. G. Sulphate of Potash.	Nitrate of Potash.	Acid Phosphate.	Cost of Materials.
19669 and 19670	700	300	300	....	200	....	300	200	....	....
18735	1200	....	....	750	100	....	500	300	....	750
19177	....	....	400	200	....	....	200	200	....	1200
19141	....	500	300	....	....	....	400	300	....	....
19490	500	400	....	....	100	....	150	200	....	100
19532	1050	400	300	....	....	....	400	300	....	....
19259	800	200	300	....	....	....	....	....	....	....
19251*	500	500	300	....	200	....	....	300	....	....
19252*	....	1000	400	....	100	....	....	300	....	....
19253	....	....	300	300	150	200	....	350	....	700
19241†	950	300	300	....	50	....	200	....	....	....
18770	1200	....	....	....	....	....	500	300	....	....
19030	....	....	650	....	100	....	....	....	250	1000
19031	....	....	1000	....	200	....	....	....	800	39.72
19032	....	....	1000	....	100	....	....	....	900	37.81
19033	300	....	500	....	200	....	....	....	200	38.27

\* Also precipitated bone 200 lbs.  
† Also carbonate of potash 200 lbs.

TABLE XVI. ANALYSES OF

Station No.	Manufacturer.	Purchased, Sampled or Sent by.	Dealer's cash price per ton.
19669	American Agricultural Chemical Co., New York .....	<i>Station Agent from</i> Arthur Manning, So. Manchester .....	
19670	American Agricultural Chemical Co., New York .....	Arthur Manning, So. Manchester .....	\$66.50
18735	Apothecaries Hall Co., Waterbury ..	F. R. & R. M. Goodrich, Portland .....	70.00
19177	Apothecaries Hall Co., Waterbury ..	Conn. School for Boys, Meriden .....	55.00
19140	Berkshire Fertilizer Co., Bridgeport ..	Farmers' Exchange, Putnam .....	42.75
19141	Berkshire Fertilizer Co., Bridgeport ..	Farmers' Exchange, Putnam .....	.....
19490	L. T. Frisbie Co., New Haven .....	Levi Hickey, East Hartford .....	.....
19461	Mapes Formula & Peruvian Guano Co., New York .....	W. C. Sanders, New Haven .....	45.00
19462	Mapes Formula & Peruvian Guano Co., New York .....	W. C. Sanders, New Haven .....	.....
19532	Olds & Whipple, Inc., Hartford .....	F. N. Buckland, Glastonbury .....	52.50
19292	Olds & Whipple, Inc., Hartford .....	L. W. Newbury, South Windsor .....	52.00
19101	Olds & Whipple, Inc., Hartford .....	H. Whitaker, Hazardville .....	63.50
19146	The Rogers & Hubbard Co., Portland ..	A. N. Shepard & Son, Rockville .....	.....
19148	The Rogers & Hubbard Co., Portland ..	A. N. Shepard & Son, Rockville .....	.....
19534	Sanderson Fertilizer Co., New Haven ..	Preston Co-op. Exchange, Norwich .....	34.25
19535	Sanderson Fertilizer Co., New Haven ..	Preston Co-op. Exchange, Norwich .....	41.25
19536	Sanderson Fertilizer Co., New Haven ..	Preston Co-op. Exchange, Norwich .....	26.75
19537	Sanderson Fertilizer Co., New Haven ..	Preston Co-op. Exchange, Norwich .....	36.25
19076	.....	Allied Tobacco Co., Hartford .....	.....
19077	.....	Allied Tobacco Co., Hartford .....	.....
18597	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18660	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18661	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18730	.....	American Sumatra Tobacco Co., Bloomfield .....	.....

## SPECIAL MIXTURES AND HOME MIXTURES.

Nitrogen.				Phosphoric Acid.				Potash.				Station No.		
In nitrates.	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	Guaranteed.	So-called "Available."	As muriate.	Total.	Found.	Guaranteed.	
.....	.....	.....	.....	5.83	.....	0.70	5.05	.....	4.35	.....	6.81	.....	19669	
1.42	0.08	0.67	3.26	5.43	.....	0.75	5.90	.....	5.15	.....	1.77	5.82	.....	19670
.....	0.12	.....	.....	5.06	.....	1.65	7.04	.....	5.39	.....	0.22	8.20	.....	18735
0.79	0.09	2.95	3.83	.....	1.85	9.38	.....	7.53	.....	8.57	10.07	.....	19177	
1.42	0.34	2.24	4.00	.....	1.65	12.00	.....	10.35	.....	5.70	5.70	.....	19140	
1.74	0.26	1.36	3.36	.....	0.20	11.93	.....	11.73	.....	5.59	5.59	.....	19141	
.....	.....	.....	4.60	.....	1.78	7.80	.....	6.02	.....	.....	8.75	.....	19490	
.....	.....	.....	2.34	1.65	3.35	9.40	.....	6.05	5.00	1.28	8.63	10.00	19461	
.....	.....	.....	1.98	1.65	1.80	7.15	.....	5.35	5.00	0.47	5.98	5.00	19462	
0.82	0.06	0.30	3.90	5.08	.....	0.20	5.75	.....	5.55	.....	0.65	5.84	.....	19532
1.70	none	4.05	5.75	.....	0.30	6.40	.....	6.10	.....	0.64	8.28	.....	19292	
.....	.....	.....	5.93	5.75	0.20	5.00	4.00	4.80	4.00	0.44	5.50	5.00	19101	
0.20	1.40	3.42	5.02	.....	0.10	6.24	.....	6.14	.....	1.42	11.94	.....	19146	
0.14	1.91	3.38	5.43	.....	0.10	7.92	.....	7.82	.....	1.21	12.02	.....	19148	
.....	.....	.....	3.34	3.20	1.65	9.83	9.00	8.18	8.00	.....	4.31	4.00	19534	
.....	.....	.....	3.96	4.11	0.40	9.08	9.00	8.68	8.00	.....	7.45	7.00	19535	
.....	.....	.....	1.70	1.65	0.68	9.45	9.00	8.77	8.00	.....	2.31	2.00	19536	
.....	.....	.....	3.50	3.29	2.35	10.93	9.00	8.58	8.00	.....	5.88	6.00	19537	
0.75	0.08	4.72	5.55	.....	0.73	5.70	.....	4.97	.....	0.58	6.14	.....	19076	
1.10	0.07	4.77	5.94	.....	0.60	5.83	.....	5.23	.....	0.47	5.33	.....	19077	
none	0.04	4.52	4.56	.....	0.15	8.35	.....	8.20	.....	0.62	8.94	.....	18597	
.....	0.05	5.43	5.48	.....	0.15	5.46	.....	5.31	.....	0.27	7.04	.....	18660	
.....	0.05	3.65	3.70	.....	0.23	10.77	.....	10.54	.....	0.35	8.66	.....	18661	
.....	.....	.....	4.64	.....	0.12	8.25	.....	8.13	.....	0.44	8.51	.....	18730	

TABLE XVI. ANALYSES OF

Station No.	Manufacturer.	Purchased, Sampled or Sent by.	Dealer's cash price per ton.
18731	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18732	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18766	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18767	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18768	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18771	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18772	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18773	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18774	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18775	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18776	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18823	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18824	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18825	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18952	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18953	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
18954	.....	American Sumatra Tobacco Co., Bloomfield .....	.....
19250	.....	Archie Evans, Hockanum .....	.....
19251	.....	Archie Evans, Hockanum .....	.....
19252	.....	Archie Evans, Hockanum .....	.....
19253	.....	Archie Evans, Hockanum .....	.....
19254	.....	Archie Evans, Hockanum .....	.....
19211	.....	Fassler & Silberman, Hartford .....	.....
18770	.....	John H. Fay, Middletown .....	.....
19030	.....	A. E. Plant Sons Co., Branford .....	.....
19031	.....	A. E. Plant Sons Co., Branford .....	.....
19032	.....	A. E. Plant Sons Co., Branford .....	.....
19033	.....	A. E. Plant Sons Co., Branford .....	.....
18724	.....	S. D. Woodruff & Sons, Orange .....	.....

## SPECIAL MIXTURES AND HOME MIXTURES—Concluded.

In nitrates.	Nitrogen.				Phosphoric Acid.				Potash.			Station No.		
	In ammonia.	Organic, water-soluble.	Organic, water-insoluble.	Total.	Found.	Citrate-insoluble.	Total.	Guaranteed.	So-called "Available."	As muriate.	Total.	Found.	Guaranteed.	
....	....	....	....	5.63	....	0.10	5.10	....	5.00	....	0.18	6.90	....	18731
....	....	....	....	5.59	....	0.13	5.09	....	4.96	....	0.22	6.79	....	18732
....	0.10	5.06	5.16	....	0.23	6.35	....	6.12	....	0.24	7.75	....	18766	
....	0.10	4.96	5.06	....	0.18	6.22	....	6.04	....	0.23	7.84	....	18767	
....	0.12	4.96	5.08	....	0.26	6.52	....	6.26	....	0.19	8.03	....	18768	
....	0.06	5.21	5.27	....	0.13	4.96	....	4.83	....	0.13	7.09	....	18771	
....	0.08	5.34	5.42	....	0.08	5.19	....	5.11	....	0.20	7.00	....	18772	
....	0.04	5.34	5.38	....	0.12	5.30	....	5.18	....	0.23	6.60	....	18773	
....	0.05	5.28	5.33	....	0.14	5.26	....	5.12	....	0.27	6.74	....	18774	
....	0.07	5.24	5.31	....	0.13	5.31	....	5.18	....	0.23	6.54	....	18775	
....	0.06	5.25	5.31	....	0.12	5.13	....	5.01	....	0.20	6.45	....	18776	
....	....	....	5.07	....	....	6.18	....	....	....	....	7.24	....	18823	
....	....	....	4.78	....	....	6.14	....	....	....	....	7.04	....	18824	
....	....	....	4.78	....	....	6.00	....	....	....	....	7.48	....	18825	
....	....	....	5.44	....	....	5.05	....	....	....	....	5.32	....	18952	
....	....	....	5.42	....	....	5.03	....	....	....	....	5.44	....	18953	
....	....	....	5.40	....	....	5.43	....	....	....	....	5.42	....	18954	
....	....	....	4.89	....	....	7.28	....	....	....	....	8.78	....	19250	
....	....	....	5.78	....	....	6.45	....	....	....	....	8.57	....	19251	
....	....	....	5.14	....	....	6.53	....	....	....	....	8.72	....	19252	
....	....	....	5.55	....	....	8.28	....	....	....	....	9.20	....	19253	
....	....	....	4.40	....	....	5.90	....	....	....	....	6.57	....	19254	
0.44	0.12	5.32	5.88	....	0.25	7.13	....	6.88	....	0.58	5.90	....	19211	
....	0.13	4.95	5.08	....	1.97	7.13	....	5.16	....	0.08	7.17	....	18770	
0.84	0.06	2.65	3.55	....	1.18	11.18	....	10.00	....	6.37	6.37	....	19030	
1.64	0.10	3.94	5.68	....	1.40	10.68	....	9.28	....	....	....	....	19031	
0.86	0.10	4.18	5.14	....	1.58	11.58	....	10.00	....	....	....	....	19032	
1.81	0.06	2.77	4.64	....	0.73	8.73	....	8.00	....	5.63	5.63	....	19033	
....	....	....	3.92	....	0.03	1.68	....	1.65	....	0.40	1.32	....	18724	

## VI. MISCELLANEOUS FERTILIZERS, AMENDMENTS AND WASTE PRODUCTS.

### WOOD ASHES.

The following samples were submitted by Hatheway & Steane, Hartford; purchased from John Joynt, Lucknow, Canada:

**18501**, car No. 117922; **18502**, car No. 534106; **19215**, car No. 247466; **19216**, car No. 213388; **19227**, car No. 206079; **19635**, car No. 90928.

Other samples were:

**19234**. Sent by A. N. Farnham, Westville.

**19589**. Sent by H. V. Worth, East Berlin. This is the ashes from a brick kiln. As our previous analyses of this material have shown, this is of very small value as a commercial fertilizer. Where it can be used with only a short haul and in large amount, it has given excellent results on grass growing on a light, sandy soil.

**19421**. Sent by S. R. McDonald, Wallingford. Bought of George Stevens, Peterborough, Canada.

The ashes had evidently been wet.

TABLE XVII. ANALYSES OF WOOD ASHES.

Station Number .....	18501	18502	19215	19216	19227	19635	19234	19589	19421
	%	%	%	%	%	%	%	%	%
Phosphoric acid ....	2.43	2.52	2.28	2.53	2.15	1.93	1.83	1.00	1.83
Water-soluble Potash.	6.56	6.75	7.09	7.54	7.28	4.59	6.78	0.64	2.37
Insoluble material ..	8.91	9.56	10.37	14.26	9.77	9.82	7.46	60.46	9.15
Cost per ton .....	\$36.08	\$37.12	....	....	....	....	....	....	....

### SHEEP MANURE, ETC.

Analyses of eleven samples of sheep manure, etc., are given in Table XVIII. All were sampled by the Station agent except 19695, which was submitted by the manufacturer.

**18926**. Sold by American Agricultural Chemical Co. Sampled from stock of Bristol Grain & Supply Co., Bristol.

**18912**. Sold by Apothecaries Hall Co., Waterbury. Sampled from stock of R. W. Hine, Cheshire.

**18968**. Sold by Armour Fertilizer Works, N. Y. Sampled from stock of Spencer Bros., Suffield.

**18964**. Sold by Berkshire Fertilizer Co., Bridgeport. Sampled at the factory.

**19160**. Sheepshead Pulverized Sheep Manure. Sold by Natural Guano Co., Aurora, Ill. Sampled from stock of F. C. Benjamin, Danbury.

**18902.** Master Brand. Sold by Proto-Feed & Guano Co., Chicago, Ill. Sampled from the stock of Lightbourn & Pond Co., New Haven.

**19193.** Wizard Brand. Sold by Pulverized Manure Co., Chicago, Ill. Sampled from stock of G. R. Stannard, Branford.

**18904.** South American Sheep and Goat Manure. Sold by Sanderson Fertilizer Co., New Haven. Sampled at the factory.

**19242.** Sold by Virginia-Carolina Chemical Co., New York. Sampled from the stock of Silliman Hardware Co., New Canaan.

**19695.** Wizard Brand. Sold by Pulverized Manure Co., Chicago, Ill. Manufacturer's sample.

There is included a single analysis of poultry manure.

**19243.** Premier Brand Pulverized Poultry Manure, sold by Poultry Feed Co., Chicago, Ill. Sampled from stock of Quality Seed & Fertilizer Co., Stamford.

TABLE XVIII. ANALYSES OF

Station Number .....	18926	18912	18968
	%	%	%
Nitrogen as nitrates .....	....	....	....
"    as ammonia .....	0.20	0.16	0.12
"    organic .....	2.38	1.24	1.38
"    total found .....	2.58	1.40	1.50
"    guaranteed .....	2.06	1.84	1.23
Phosphoric acid, citrate-insoluble .....	0.20	0.10	0.43
"    "    total found .....	1.45	0.95	1.70
"    "    guaranteed .....	1.25	1.25	1.00
Potash, water-soluble, found .....	2.08	3.24	3.21
"    "    guaranteed .....	1.00	3.00	2.50
Cost per ton .....	\$48.00	....	\$45.00

Sample **18912** falls below the guaranty in both nitrogen and phosphoric acid. The Apothecaries Hall Co. states that the guarantee is the one given by the party from whom the manure was bought.

On receiving our analysis, the guaranty on the packages was changed to conform to the analysis.

The ten samples vary greatly in their composition. The average of the ten is:

Nitrogen .....	1.93%
Phosphoric acid .....	1.54%
Water-soluble potash .....	2.80%
Cost per ton .....	\$45.96

**18522**, sent by E. Barnwater, Stratford, was stated to have been bought for sheep manure. It contained:

Nitrogen .....	2.80%
Phosphoric acid .....	0.73%
Potash .....	1.50%
Insoluble matter .....	11.00%
Water .....	12.61%

#### TOBACCO STEMS.

No. **18900**, sent by J. E. Luddy, Windsor, was a sample offered by the Imperial Tobacco Co., Montreal. It contained 1.17 per cent of nitrogen and 2.57 per cent of potash. It is therefore of very inferior quality.

#### REFUSE GLUE.

**18751**, from J. H. Stannard, Ivoryton, contained 12.04 per cent nitrogen and 0.15 phosphoric acid.

#### SHEEP MANURE, ETC.

18904	19160	18902	19193	18904	19242	19695	19243
%	%	%	%	%	%	%	%
0.08	0.04	....	....	....	....	....	....
0.38	0.24	0.12	....	0.12	....	0.04	0.62
1.80	2.21	1.86	....	1.45	....	1.60	3.61
2.26	2.49	1.98	1.96	1.57	1.91	1.64	4.23
1.70	2.25	2.05	2.00	1.23	1.72	1.80	4.10
0.13	0.18	0.10	0.13	0.13	0.25	0.10	0.15
1.05	1.73	1.60	1.55	1.03	2.45	1.30	2.75
1.00	1.25	1.00	....	1.00	....	1.00	2.70
2.91	2.15	3.71	3.07	3.25	1.56	2.85	1.28
1.00	1.50	2.50	2.00	3.00	1.50	1.00	1.30
\$40.00	\$50.00	\$49.00	\$49.00	\$42.00	\$44.70	....	\$45.00

#### TOBACCO FERTILIZER.

**19489** was a tobacco fertilizer salvaged from a burned tobacco barn. Sent by Foran Bros., East Hartford.

It contained 3.73 per cent nitrogen, 8.05 of available phosphoric acid and 5.96 of potash and was not very seriously damaged.

#### PEAT OR MUCK.

Four samples have been examined:

**17876** from C. L. Bill, 1184 Main St., Bridgeport.

**18290** from M. H. Nolan, Stratford.

**18881** from D. J. Smith, Southington.

**19406** from Richard Starr, Darien.

These analyses are here given on a water-free basis:

Per cent of	Organic Matter.	Mineral Matter.	Nitrogen.
17876 .....	28.66	71.34	0.95
18290 .....	25.87	74.13	1.14
18881 .....	78.73	21.27	4.00
19406 .....	69.91	20.09	1.30

The first two in the table are of very moderate value because sand and earth make nearly three-quarters of their weight. The others in their dry or partially dry state would be excellent absorbents of liquid manure or would be suitable for composing with stable manure.

The amount of nitrogen in **18881** is exceptionally large.

#### LIME AND LIMESTONE.

A number of samples of these materials have been analyzed and will be printed in another bulletin including analyses not yet completed.

#### SOILS.

The tests of acidity made in samples of soil are of no general value and are therefore not reported here.

## POTASH-MARL.

This material is sold by Potash-Marl, Inc., 15 East 40th St., New York City, and is a prepared green sand marl which occurs in New Jersey, and has been used locally as a fertilizer where it could be obtained abundantly and cheaply.

It contains considerable potash, sometimes 6 per cent or more, which is not, however, water-soluble. The Company only guarantees the amount of phosphoric acid.

Four samples have been examined as follows:

No. 19407, from stock of Silliman Hardware Co., New Canaan, Conn.

No. 19726, stock of Lightbourn & Pond, New Haven, Conn.

Both the above were sent by the Station agent.

No. 1 and No. 2 were sent by the Potash-Marl Co.

## ANALYSES.

	19407	19726	No. 1	No. 2
Available phosphoric acid found.....	0.33	0.24	....	....
Available phosphoric acid guaranteed.	1.75	1.75	....	....
Insoluble phosphoric acid .....	0.55	0.64	....	....
Total phosphoric acid found .....	0.88	0.88	0.99	1.24
Total phosphoric acid guaranteed.....	2.14	2.14	....	....
Price per ton .....	\$45.00	\$45.00	....	....

The samples Nos. 1 and 2 were noticeably finer than the others.

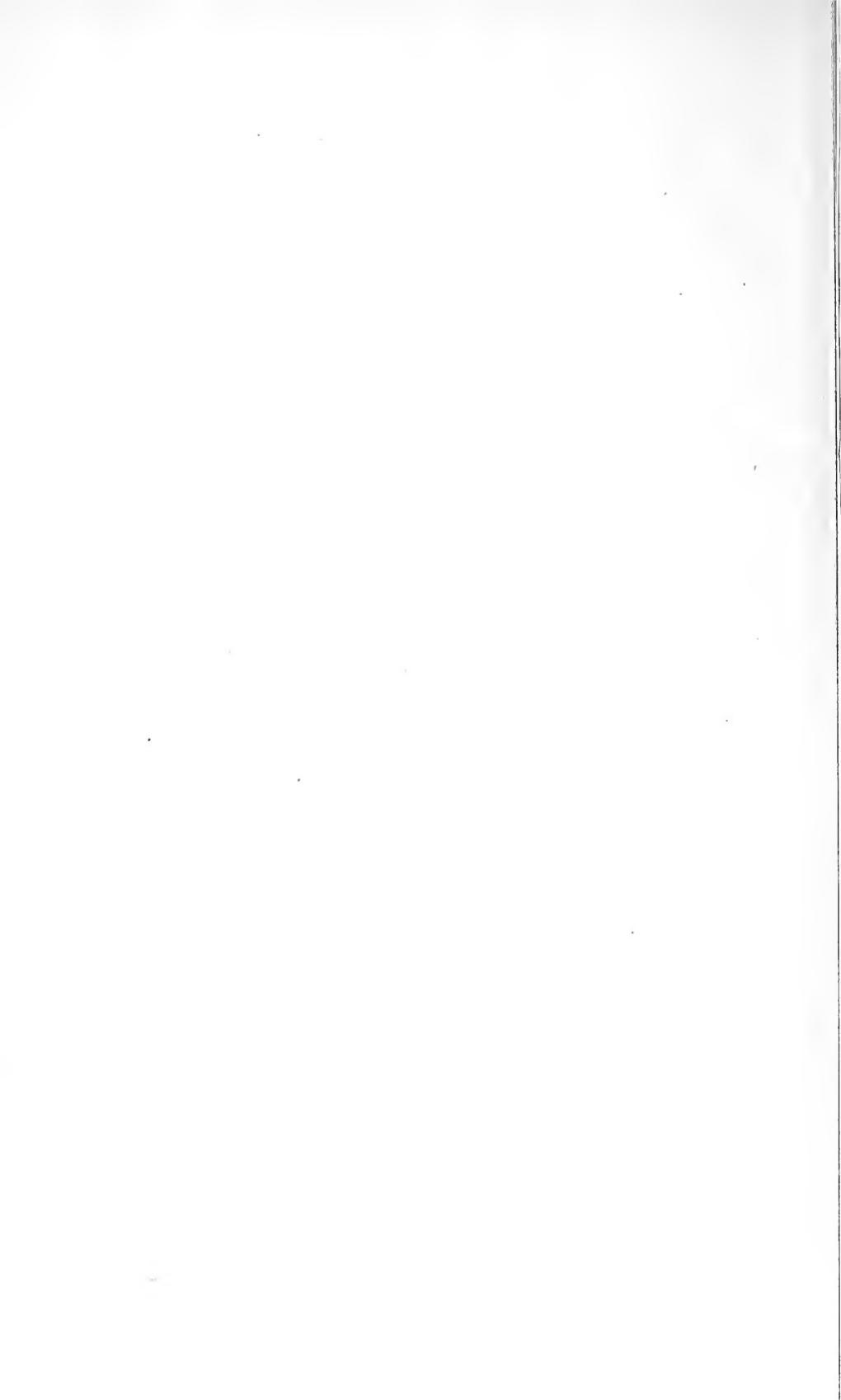
## CORRECTIONS.

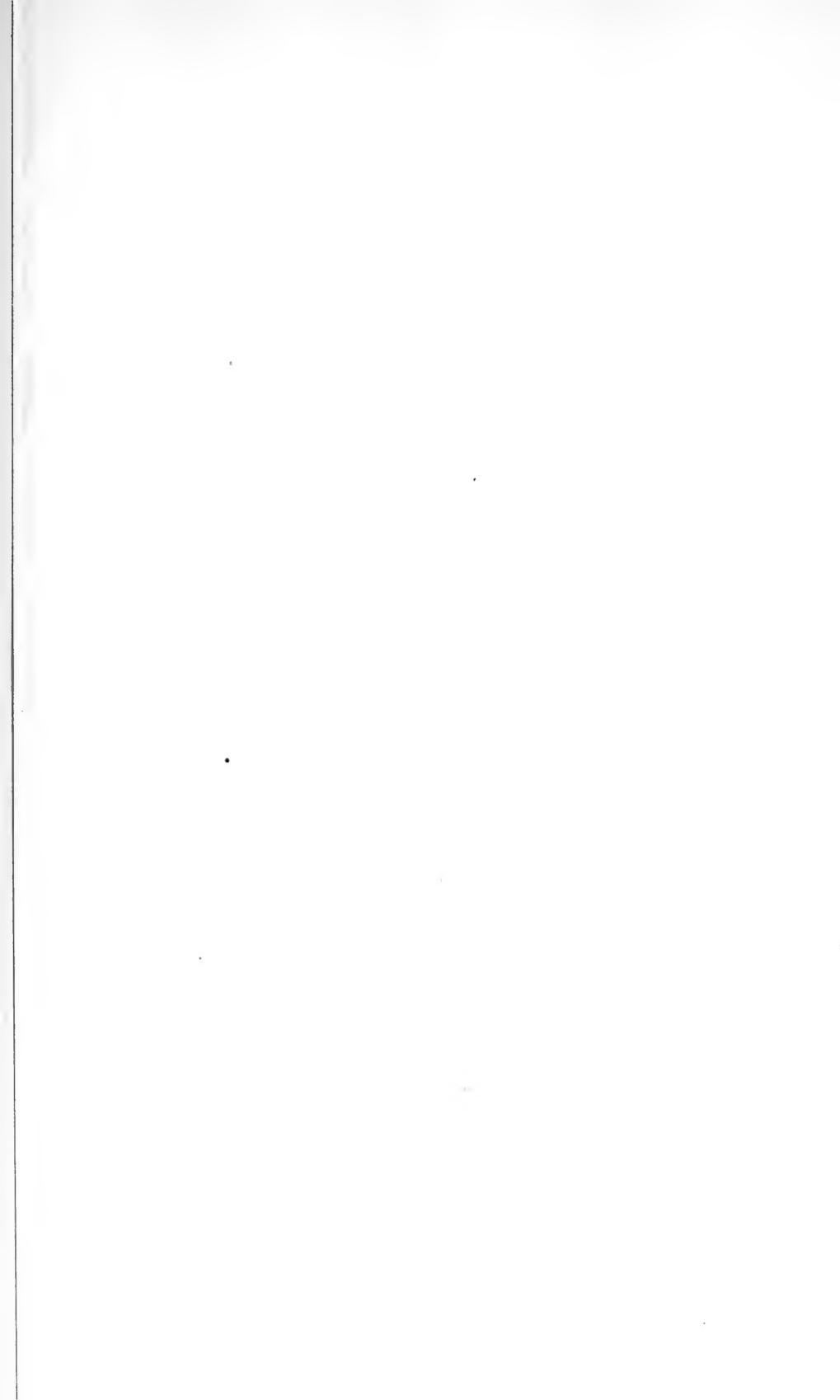
The following corrections should be made in Bulletin 238 (being the Report of this Station on Commercial Feeding Stuffs for 1921), page 337, Table II:

Item under *Wheat Feed (Mixed Feed)* should read: 15722 Wirthmore, St. Albans Grain Co., St. Albans, Vt. .... 0.30

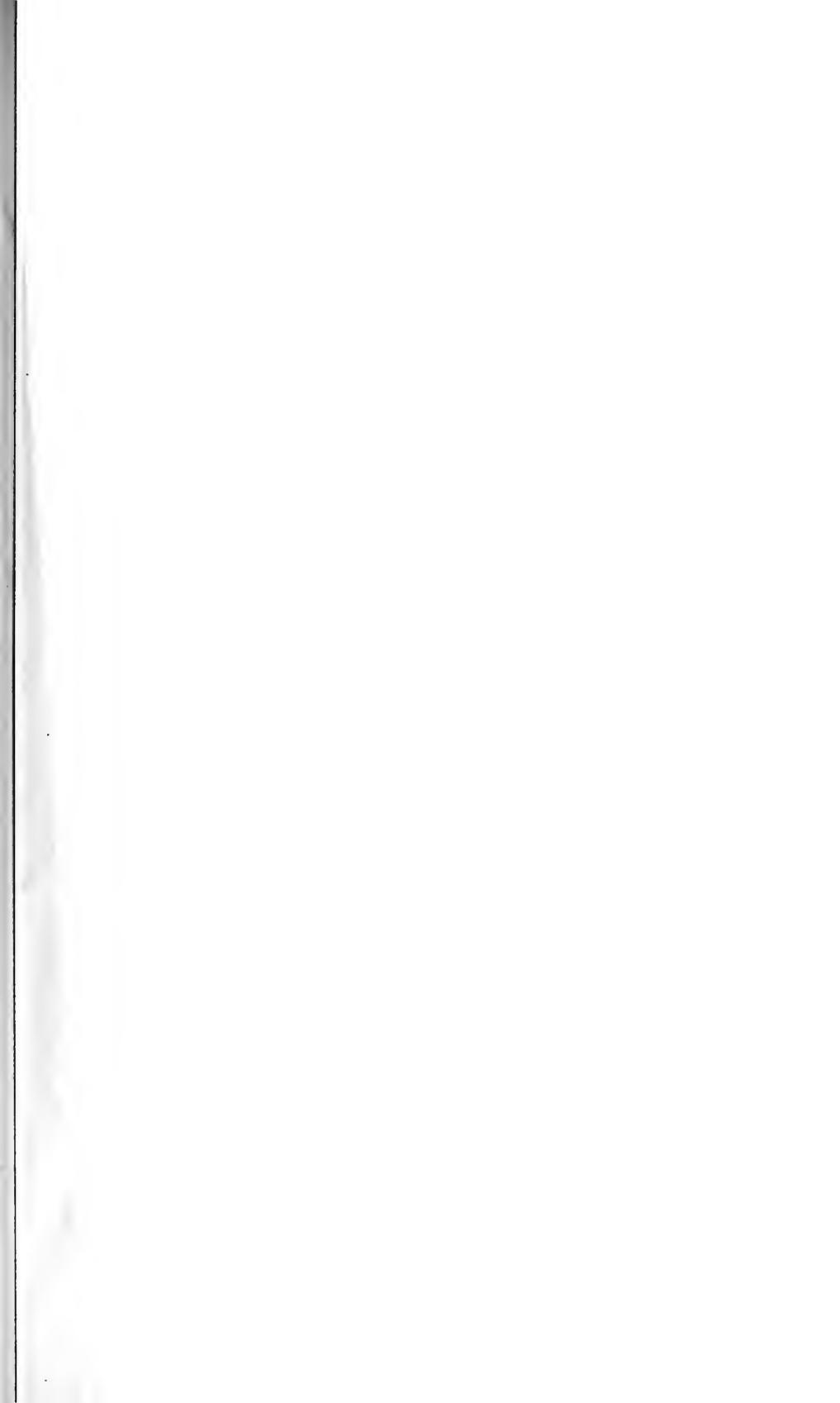
Item under *Poultry Feeds* should read: 18008 Chick-Chuck, Russia Cement Co., Gloucester, Mass. 5.75 0.38 ....







50 - 43







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